

AD-A104 192 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
19316A MLRS, MISSILE NUMBERS V15-001, V28-001, ROUND NUMBERS V--ETC(U)
JUL 81 D C KELLER

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(6) 19316A MLRS,
Missile Numbers V15-001, V28-001,
Round Numbers V-173/AT-4, V-174/AT-5,
22 July 1981.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological Data gathered for the launching of the 19316A MLRS, Missile Numbers V-15-001, V-28-001, Round Numbers V-173/AT-4, V-174/AT-5 presented in tabular form.		



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INTRODUCTION

19316A MLRS, Missile Numbers V-15 and V-28-001, Round Numbers V-173/AT-4 and V-174/AT-5, were launched from BRILLO, White Sands Missile Range (WSMR), New Mexico, at 1330 and 1430 MDT, 22 July 1981. The scheduled launch times were 1330 and 1430 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observation:

a. Surface.

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the D-3 1/2 Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

b. Upper Air:

(1) Low level wind data were obtained from Double Theodolite Pilot-Balloon observations at:

SITE AND ALTITUDE

D-3 1/2	1150 & 1700 Meters
MAL	1150 & 2000 Meters

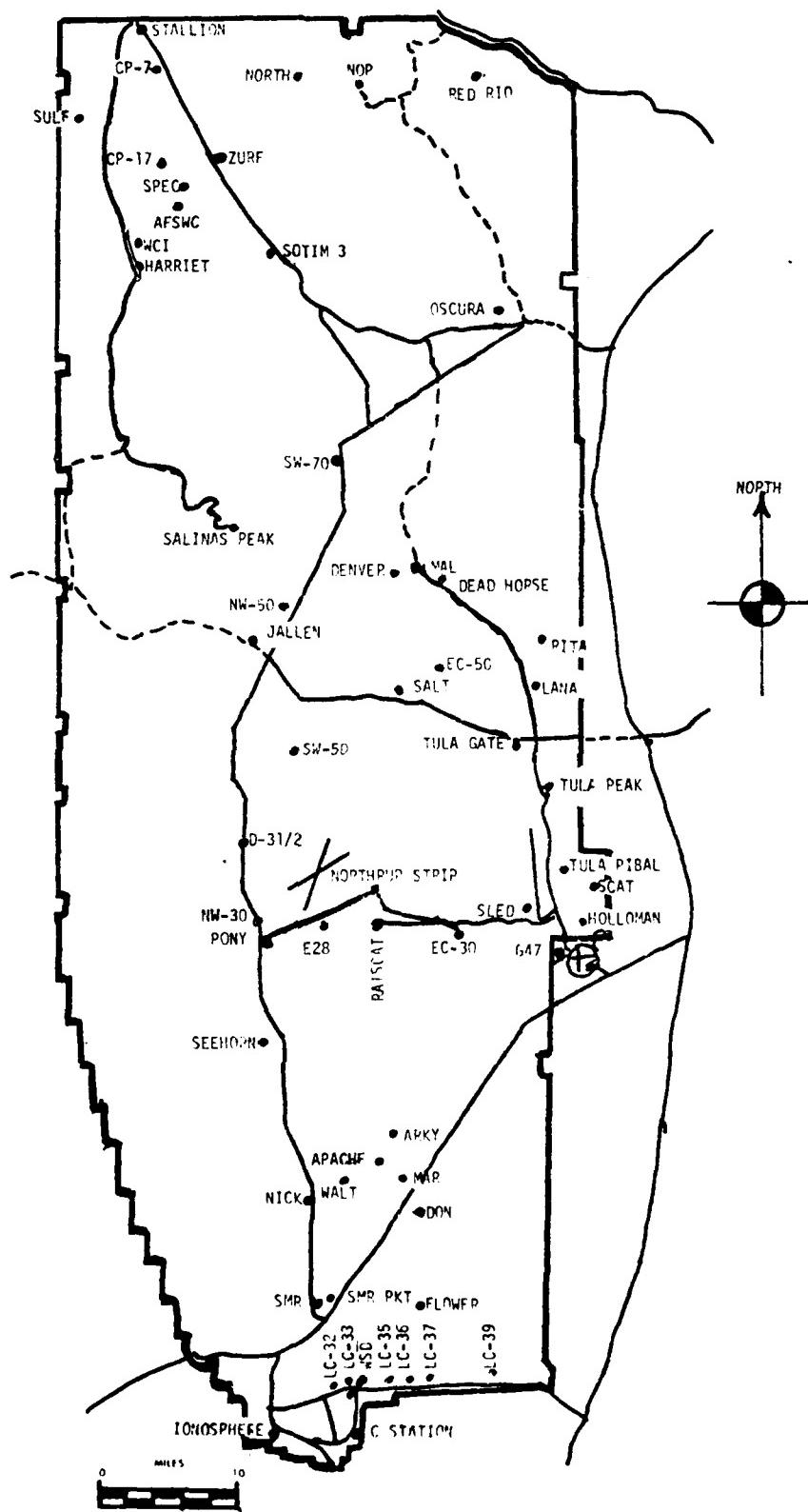
(2) Air structure data (rawinsonde) were collected at the following Met Sites:

SITE AND TIME

WSD	0730 MDT
NW-30	1030 MDT
JALLEN	1130 MDT
NW-30	1330 MDT
JALLEN	1430 MDT

Accession For	
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DTIC TAB	
Unannounced	
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and or Special
A	

WSMR METEOROLOGICAL SITES



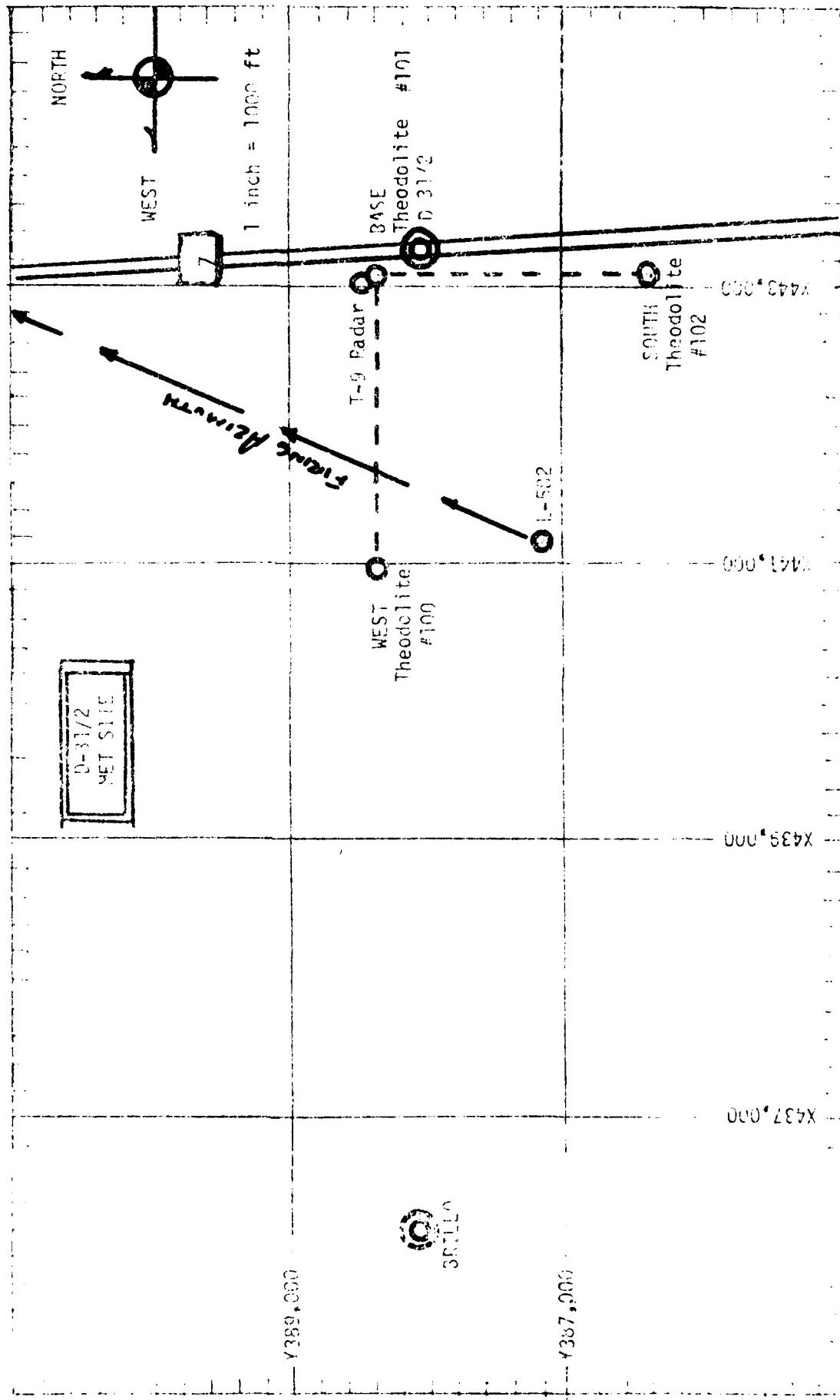


TABLE 1

DATE 22 - JULY - 1981
DAY

TIME H D J	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	REL. HUM.
1330	878.1	106.0	41.1	60.1
1430	878.8	105.4	40.8	52.0

1430 1993.12 $\frac{1}{2}$ $^{+} 388,317.32$ $^{+} 3.964.34$

TIME H D J	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	REL. HUM.
1330	878.1	106.0	41.1	61.9
1430	878.8	105.4	40.8	51.0

TIME H D J	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	REL. HUM.
1330	878.1	106.0	41.1	60.0
1430	878.8	105.4	40.8	57.0

TIME H D J	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	REL. HUM.
1330	878.1	106.0	41.1	60.0
1430	878.8	105.4	40.8	57.0

OBSTRUCTIONS TO VISIBILITY	1ST LINE ANT	TYPE	2ND LINE ANT	TYPE
	2	CU	8000	
	2	CU	8000	

TIME: MDT	1330	1430
SPY GULF TWP.	41.1	40.8
KET GULF TWP.	22.6	20.2
KET GULF SHP.	19.5	24.0
CEN. FORT.	4.2	11.0
SW. FORT.	2.2	1.7

TABLE 2

T-TIME PILOT-BALLOON MEASURED WIND DATA
DATE 22 July 1981

SITE: D-3 1/2
TIME: 1340 MDT
WSTM COORDINATES:
X= 443,093.12
Y= 388,317.32
H= 3,964.34

SITE: MAL
TIME: 1330 MDT
WSTM COORDINATES:
X= 509,421.05
Y= 495,563.18
H= 4,126.81

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS	LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	160	03	SURFACE	270	02
150	097	04	150	287	02
210	094	04	210	293	03
270	096	05	270	289	03
330	106	04	330	273	03
390	119	03	390	249	03
500	136	02	500	243	05
650	171	02	650	249	08
800	185	03	800	236	06
950	203	02	950	226	07
1150	316	02	1150	199	05
1350	356	04	1350	199	05
1550	023	05	1550	M I S G	
1750	044	06	1750	M I S G	
2000	M I S G		2000	M I S G	

All data obtained from Double Theodolite Tracked Pilot-Balloon observations.

TABLE 3

DOUBLE PILOT-BALLOON OBSERVATION DATA

DATE 22 July 1981

SITE: D-3 1/2
 TIME: 1440 MDT
 WSTM COORDINATES:
 X= 443,093.12
 Y= 388,317.32
 H= 3,964.34

SITE: MAL
 TIME: 1430 MDT
 WSTM COORDINATES:
 X= 509,421.05
 Y= 495,563.18
 H= 4,126.81

LAYER MIDLPOINT METERS AGL	DIRECTION DEGREES N. E.	SPEED KTS	LAYER MIDLPOINT METERS AGL	DIRECTION DEGREES N. E.	SPEED KTS
SURFACE	100	04	800	220	05
100	087	07	100	182	05
210	096	07	210	172	06
270	109	08	270	185	07
330	119	08	330	190	08
390	128	09	390	191	08
500	128	09	500	191	07
650	132	05	650	183	06
800	188	05	800	174	06
950	196	06	950	164	06
1150	191	07	1150	175	07
1350	M I S G		1350	187	11
1550	M I S G		1550	189	12
1750	M I S G		1750	143	03
2000	M I S G		2000	099	04

All data obtained from Double Theodolite Tracked Pilot-Balloon observations.

TABLE 4

AIMING AND T-TIME COMPUTER MET MESSAGES
22 July 1981

WSD	0730 MDT	NW-30	1030 MDT	JALLEN	1130 MDT
METCM1324064		METCM1329065		METCM1332065	
221350122880		221650123879		221750124877	
00000000 29520880		00569002 30460879		00000000 30600877	
01246004 28980870		01024006 30290870		01349006 30600867	
02186003 30100845		02270001 30230845		02249002 30380843	
03300002 29960808		03000000 30040808		03589002 30110806	
04352002 29610763		04602003 29730763		04632003 29750761	
05046005 29190720		05006006 29320720		05027009 29360719	
06069009 28780679		06043007 28890679		06107007 28930678	
07130015 28370639		07165007 28440640		07222008 28460639	
08171019 27960602		08214015 28000603		08241012 28000601	
09180022 27490566		09217020 27560567		09229019 27530566	
10182022 27020532		10211025 27150533		10231021 27080531	
11266020 26830499		11306017 26920500		11331017 26870499	
12333019 26410453		12379012 26400454		12396011 26400453	
13346012 25640398		13390007 25690399		13388008 25660398	
14353006 24910348		14285004 24990348		14298006 25010348	
15263006 24250303		15299005 24310304		15302006 24310305	
16111005 23530263		16317001 23520263		16335004 23530263	
17149012 22690227		17257007 22720227		17289006 22740227	
18131006 21920195		18053001 21900195		18538001 21930195	
19572003 21230166		19463013 21350167		19494012 21340166	
20443012 20650141		20479017 20660142		20478018 20610142	
21435009 20160120		21469012 20170120		21461015 20140120	
22151004 20150101		22251004 20310102		22335005 20420101	
23135007 20610086		23106011 20750086		23118007 20790086	
24171012 21150073		24164015 20980073		24213016 21220073	
25168016 21200062		25194014 21310062		25206013 21410062	
26151026 21450053		26188022 21650053		26183014 21610053	

TABLE 5AIMING AND T-TIME COMPUTER MET MESSAGES
22 July 1981

NW-30	1330 MDT	JALLEN	1430 MDT
METCM1329065		METCM1332065	
221950123878		222050124875	
00089003	31140878	00000000	31200875
01197006	30960868	01336007	31110865
02221005	30750844	02279005	30910842
03293007	30340807	03376003	30520805
04613003	29840763	04391006	30030761
05014004	29390720	05290007	29550719
06261001	28920679	06258008	29090678
07263008	28450640	07211011	28600639
08214016	28020603	08215013	28120602
09213021	27580567	09213018	27660566
10236017	27170533	10275013	27260532
11378009	26910500	11445006	26920500
12439007	26410454	12397004	26470454
13356006	25710399	13333007	25750399
14290007	24990349	14324006	25020349
15288007	24360304	15331007	24400304
16305009	23590264	16358009	23670264
17283012	22750227	17335010	22850228
18237004	21910194	18409005	22090196
19507013	21380166	19506016	21360167
20513015	20560141	20473016	20620142
21473011	20090119	21451008	20210121
22506004	20290101	22483002	20390102
23212013	20810086	23283013	20830087
24273016	20930073	24314006	21060074
25162009	21330062	25113013	21530063
26151020	21650053	26150024	21670054

STATION ALTITUDE 3989.00 FEET MSL
 22 JULY 81 0730 HRS MDT
 ASCENSION NO. 471

SIGNIFICANT LEVEL DATA
 2030020471
 WHITE SANDS

GEOGRAPHIC COORDINATES
 32°40'04.3" LAT DEG
 106°37'03.3" LON DEG

TABLE 6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRANE	RFL.HUM. PERCENT
879.6	3989.0	20.6	7.9	44.0
865.4	4455.7	26.4	9.3	34.0
850.0	4975.8	26.6	8.6	32.0
796.8	6842.2	24.6	6.4	31.0
700.0	10511.7	15.5	1.6	39.0
631.0	13370.1	8.5	-1.6	49.0
603.4	14580.6	6.0	-9.4	32.0
529.1	18055.3	-4.1	-11.5	56.0
523.2	18346.0	-4.9	-13.7	50.0
515.0	18755.2	-4.1	-20.7	26.0
500.0	19520.3	-5.2	-21.7	26.0
474.2	20885.6	-6.5	-21.9	28.0
413.4	24357.6	-15.0	-25.5	40.0
400.0	25175.3	-16.6	-28.7	34.0
351.2	28345.9	-24.3	-36.8	30.0
344.6	28801.1	-24.3	-37.9	27.0
300.0	32081.6	-31.2	-44.6	25.0
264.4	34991.5	-37.5	-49.8	26.0
250.0	36256.9	-40.4		
225.6	38531.1	-46.9		
200.0	41125.2	-53.1		
185.2	42749.4	-55.5		
166.4	44968.4	-61.4		
157.4	46104.8	-61.6		
150.0	47082.9	-64.1		
132.2	49603.1	-69.1		
110.5	53094.8	-74.1		
100.0	55030.1	-71.1		
92.4	56576.5	-70.4		
74.0	61040.4	-60.1		
70.0	62182.0	-61.4		
65.4	63571.6	-62.2		
55.0	67141.5	-58.0		
50.0	69124.1	-58.4		
35.8	76151.0	-53.4		
30.0	79955.4	-48.5		
24.2	84670.1	-44.9		
20.0	88880.0	-45.3		
17.0	92467.4	-45.3		
14.6	95853.9	-42.3		

STATION ALITUDE 3989.00 FEET MSL
22 JULY 81 0730 HRS MDT
ASCENSION NO. 471

UPPER AIR DATA
203002471
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	879.6	20.6	7.9	44.0	1030.3	669.2	0	1.000278
4000.0	879.3	20.7	8.0	43.8	1037.4	669.4	129.8	1.000278
4500.0	864.1	26.4	9.2	33.8	999.7	676.0	129.8	1.000272
5000.0	849.3	26.6	8.5	32.0	982.2	676.1	129.8	1.000266
5500.0	834.7	26.0	7.9	31.7	967.2	675.5	129.8	1.000261
6000.0	820.4	25.5	7.4	31.5	952.4	674.9	141.3	1.000256
6500.0	806.3	25.0	6.8	31.2	937.8	674.2	169.4	1.000251
7000.0	792.4	24.2	6.2	31.3	924.1	673.3	184.4	1.000247
7500.0	778.5	23.0	5.6	32.4	911.8	671.9	197.3	1.000243
8000.0	764.9	21.7	5.0	33.5	899.7	670.4	201.7	1.000239
8500.0	751.5	20.5	4.4	34.6	887.8	669.0	23.6	1.000235
9000.0	738.4	19.2	3.7	35.7	876.1	667.5	28.8	1.000231
9500.0	725.4	18.0	3.0	36.8	864.5	666.1	29.3	1.000227
10000.0	712.8	16.8	2.3	37.9	853.2	664.6	24.0	4.7
10500.0	700.3	15.5	1.6	39.0	841.9	663.1	27.4	1.000223
11000.0	687.7	14.3	1.1	40.7	830.4	661.7	36.7	1.000219
11500.0	675.3	13.1	.6	42.5	819.0	660.3	46.8	1.000216
12000.0	663.2	11.9	.1	44.2	807.8	658.8	56.3	1.000212
12500.0	651.3	10.6	-.5	46.0	796.7	657.4	65.6	1.000209
13000.0	639.5	9.4	-1.1	47.7	785.9	656.0	74.0	1.000205
13500.0	628.0	8.2	-2.3	47.2	775.1	654.5	81.8	1.000202
14000.0	616.5	7.2	-5.4	40.2	764.1	653.1	88.6	1.000197
14500.0	605.2	6.2	-8.8	33.8	753.3	651.7	94.8	1.000193
15000.0	593.9	4.8	-9.4	34.9	743.0	650.1	98.6	1.000189
15500.0	582.8	3.3	-9.5	38.4	732.9	648.4	101.0	1.000186
16000.0	571.9	1.9	-9.7	41.8	723.0	646.7	101.1	1.000178
16500.0	561.2	.4	-10.0	45.3	713.2	645.0	99.6	1.000176
17000.0	550.6	-1.0	-10.4	46.7	703.6	643.3	99.3	1.000173
17500.0	540.3	-2.5	-10.9	52.2	694.2	641.5	100.1	1.000171
18000.0	530.2	-3.9	-11.5	55.6	684.9	639.8	105.0	1.000168
18500.0	520.1	-4.6	-15.8	41.0	673.8	638.8	114.6	1.000166
19000.0	510.2	-4.5	-21.0	26.0	660.9	638.9	129.2	1.000159
19500.0	500.4	-5.2	-21.6	26.0	650.0	638.0	147.6	1.000153
20000.0	490.8	-5.7	-21.7	26.7	638.6	637.4	162.5	1.000150
20500.0	481.3	-6.1	-21.9	27.4	627.5	636.9	176.3	1.000148
21000.0	472.1	-6.8	-22.0	28.4	616.9	636.1	182.7	1.000145
21500.0	462.8	-8.0	-22.4	30.1	607.6	634.6	187.2	1.000143
22000.0	453.8	-9.2	-22.9	31.9	598.5	633.2	187.4	1.000141
22500.0	444.9	-10.5	-23.4	33.6	589.5	631.7	188.4	1.000139
23000.0	436.2	-11.7	-23.9	35.3	580.7	630.2	190.3	1.000136

STATION ALTITUDE 3989.00 FEET MSL
22 JULY 81 0730 HRS MDT
ASCENSION NO. 471

UPPF AIR DATA

2030020471
WHITE SANDS

TABLE 7 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	427.7	-12.9	37.0	572.0	628.7	191.5	15.9	1.000132
24000.0	419.3	-14.1	38.8	563.5	627.2	192.0	15.7	1.000130
24500.0	411.0	-15.3	39.0	554.9	625.8	192.1	14.9	1.000128
25000.0	402.8	-16.3	38.0	546.0	624.6	191.7	13.7	1.000125
25500.0	394.7	-17.4	39.6	537.3	623.2	193.3	12.0	1.000123
26000.0	386.7	-18.6	38.8	529.0	621.7	197.0	9.9	1.000121
26500.0	378.8	-19.8	32.1	520.7	620.2	204.4	6.8	1.000118
27000.0	371.1	-21.0	33.4	512.6	618.7	214.1	8.5	1.000116
27500.0	363.6	-22.2	34.7	504.7	617.2	216.3	7.7	1.000114
28000.0	356.2	-23.5	36.0	496.8	615.7	213.3	6.5	1.000112
28500.0	349.0	-24.3	37.2	488.4	614.6	200.4	5.5	1.000110
29000.0	341.7	-24.7	38.3	479.1	614.1	178.4	5.1	1.000108
29500.0	334.6	-25.8	39.3	471.0	612.8	164.8	5.3	1.000106
30000.0	327.6	-26.8	40.3	463.2	611.5	156.2	5.7	1.000104
30500.0	320.7	-27.9	41.4	455.4	610.2	151.5	6.4	1.000102
31000.0	314.0	-28.9	42.4	447.9	608.9	148.9	7.2	1.000101
31500.0	307.5	-30.0	43.4	440.4	607.6	148.8	7.5	1.000099
32000.0	301.0	-31.0	44.5	433.1	606.2	149.6	7.7	1.000097
32500.0	294.6	-32.1	45.4	425.7	604.9	147.0	6.4	1.000095
33000.0	288.3	-33.2	46.3	418.5	603.5	139.5	4.4	1.000094
33500.0	282.1	-34.3	47.1	411.3	602.2	112.7	2.6	1.000092
34000.0	276.0	-35.4	48.0	404.3	600.8	55.6	2.6	1.000091
34500.0	270.1	-36.4	48.9	397.5	599.4	41.9	3.6	1.000089
35000.0	264.3	-37.5	49.9	390.7	598.0	44.0	4.4	1.000087
35500.0	258.5	-38.7	56.1**	384.0	596.6	58.1	5.3	1.000086
36000.0	252.9	-39.8	53* -64.3	377.5	595.1	73.9	6.8	1.000084
36500.0	247.3	-41.1		371.2	593.5	78.1	8.3	1.000083
37000.0	241.8	-42.5		365.2	591.6	77.9	9.7	1.000081
37500.0	236.4	-44.0		359.2	589.8	78.5	10.9	1.000080
38000.0	231.1	-45.4		353.4	588.0	80.8	11.7	1.000079
38500.0	225.9	-46.8		347.7	586.1	82.8	12.4	1.000077
39000.0	220.7	-48.0		341.6	584.5	86.9	12.6	1.000076
39500.0	215.7	-49.2		335.5	583.0	91.3	12.8	1.000075
40000.0	210.7	-50.4		329.6	581.4	93.7	12.2	1.000073
40500.0	205.9	-51.6		323.8	579.9	94.8	11.0	1.000072
41000.0	201.2	-52.8		318.0	578.3	92.8	9.3	1.000071
41500.0	196.5	-53.7		311.8	577.2	82.4	6.9	1.000069
42000.0	191.9	-54.4		305.8	576.2	61.6	5.0	1.000068
42500.0	187.4	-55.1		299.4	575.7	26.1	4.7	1.000067
43000.0	183.0	-56.2		293.8	573.9	357.6	6.0	1.000065

** LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
22 JULY 81 0730 HRS MDT
ASCENSION NO. 471

UPPER AIR DATA
2030020471
WHITE SANDS

TABLE 7 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	GM/CUBIC METER	SOUND SPEED KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	178.6	-57.5			288.5	572.1	354.1	6.3	1.000064
44000.0	174.4	-58.8			283.4	570.3	354.7	6.2	1.000063
44500.0	170.2	-60.2			278.4	568.6	349.0	5.3	1.000062
45000.0	166.1	-61.4			273.3	566.9	325.6	3.8	1.000061
45500.0	162.1	-61.5			266.8	566.8	287.8	3.5	1.000059
46000.0	158.2	-61.6			260.5	566.7	251.1	5.3	1.000058
46500.0	154.4	-62.6			255.4	565.3	236.4	8.2	1.000057
47000.0	150.6	-63.9			250.7	563.6	232.5	10.1	1.000056
47500.0	146.9	-64.9			245.8	562.2	232.9	10.6	1.000055
48000.0	143.3	-65.9			240.8	560.8	233.3	11.1	1.000054
48500.0	139.7	-66.9			236.0	559.5	249.0	11.7	1.000053
49000.0	136.3	-67.9			231.3	558.1	262.7	13.1	1.000052
49500.0	132.9	-68.9			226.6	556.8	269.1	13.8	1.000050
50000.0	129.5	-69.7			221.8	555.7	269.1	12.7	1.000049
50500.0	126.2	-70.4			216.9	554.7	269.1	11.7	1.000048
51000.0	123.0	-71.1			212.2	553.8	250.1	9.9	1.000047
51500.0	119.9	-71.8			207.5	552.8	226.3	9.5	1.000046
52000.0	116.9	-72.5			203.0	551.8	226.2	9.4	1.000045
52500.0	113.9	-73.2			198.5	550.8	233.6	9.3	1.000044
53000.0	111.0	-74.0			194.2	549.8	238.9	7.5	1.000043
53500.0	108.2	-73.5			188.8	550.5	246.1	4.3	1.000042
54000.0	105.5	-72.7			183.3	551.6	267.1	1.4	1.000041
54500.0	102.8	-71.9			177.9	552.6	97.0	1.2	1.000040
55000.0	100.2	-71.1			172.7	553.7	93.4	3.8	1.000038
55500.0	97.6	-70.9			168.1	554.1	91.2	4.6	1.000037
56000.0	95.2	-70.7			163.7	554.4	89.1	5.0	1.000036
56500.0	92.8	-70.4			159.4	554.7	84.3	5.8	1.000035
57000.0	90.5	-69.4			154.7	556.1	76.7	7.4	1.000034
57500.0	88.3	-68.3			150.1	557.6	71.8	9.1	1.000033
58000.0	86.1	-67.1			145.5	559.2	72.8	10.1	1.000032
58500.0	84.0	-66.0			141.2	560.4	74.3	11.0	1.000031
59000.0	81.9	-64.8			137.0	562.3	74.5	11.7	1.000030
59500.0	79.9	-63.7			132.9	563.9	73.0	12.0	1.000029
60000.0	77.9	-62.5			128.9	565.4	71.6	12.4	1.000028
60500.0	76.0	-61.3			125.0	567.0	80.7	12.5	1.000027
61000.0	74.1	-60.2			121.3	568.5	90.6	12.6	1.000026
61500.0	72.4	-60.6			118.6	567.9	99.7	13.2	1.000025
62000.0	70.6	-61.2			116.1	567.2	109.1	12.9	1.000026
62500.0	68.9	-61.6			113.5	566.7	118.6	13.0	1.000025
63000.0	67.3	-61.9			110.9	566.3	116.9	13.2	1.000025

STATION ALTITUDE 3989.00 FEET MSL
 22 JULY 81 0730 HRS MDT
 ASCENSION NO. 471

IOPFR AIR DATA
 2030020471
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 7 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE	DEPOINT PERCENT	REL.HUM. PERCENT	SPEED OF SOUND METER	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
63500.0	65.6	-62.2		108.4	565.9	109.4	13.5
64000.0	64.1	-61.7		105.5	566.5	102.4	13.9
64500.0	62.5	-61.1		102.7	567.3	96.4	15.9
65000.0	61.0	-60.5		100.0	568.1	91.7	18.0
65500.0	59.6	-59.9		97.3	568.9	88.0	19.9
66000.0	58.1	-59.3		94.7	569.6	85.0	21.1
66500.0	56.7	-58.8		92.2	570.4	82.2	22.4
67000.0	55.4	-58.2		89.7	571.2	82.0	23.7
67500.0	54.1	-58.1		87.6	571.3	83.5	25.0
68000.0	52.8	-58.2		85.5	571.2	84.9	26.3
68500.0	51.5	-58.3		83.5	571.1	84.1	27.2
69000.0	50.3	-58.4		81.6	570.9	82.7	28.0
69500.0	49.1	-58.1		79.6	571.3	81.5	28.8
70000.0	48.0	-57.8		77.6	571.7	81.0	29.8
70500.0	46.8	-57.4		75.6	572.2	81.6	30.8
71000.0	45.7	-57.1		73.7	572.7	82.2	31.6
71500.0	44.7	-56.7		71.9	573.1	84.6	31.9
72000.0	43.6	-56.4		70.1	573.6	86.8	32.2
72500.0	42.6	-56.0		68.3	574.1	88.4	32.7
73000.0	41.6	-55.6		66.6	574.6	89.1	33.3
73500.0	40.6	-55.3		64.9	575.0	89.8	34.0
74000.0	39.7	-54.9		63.3	575.5	90.6	34.6
74500.0	38.7	-54.6		61.7	576.0	91.4	35.0
75000.0	37.8	-54.2		60.2	576.4	92.2	35.5
75500.0	36.9	-53.9		58.7	576.9	92.3	34.3
76000.0	36.1	-53.5		57.2	577.4	92.2	32.8
76500.0	35.2	-53.0		55.7	578.1	92.2	31.3
77000.0	34.4	-52.3		54.3	578.9	92.8	30.8
77500.0	33.6	-51.7		52.9	579.9	93.5	30.4
78000.0	32.9	-51.0		51.5	580.6	94.2	30.0
78500.0	32.1	-50.4		50.2	581.5	95.1	30.1
79000.0	31.4	-49.7		48.9	582.3	95.9	30.1
79500.0	30.6	-49.1		47.6	583.2	96.8	30.2
80000.0	29.9	-48.5		46.4	584.0	96.0	29.7
80500.0	29.3	-48.1		45.3	584.5	95.1	29.2
81000.0	28.6	-47.7		44.2	584.9	94.1	28.7
81500.0	28.0	-47.3		43.1	585.4	93.0	28.1
82000.0	27.3	-46.9		42.1	585.9	92.0	27.5
82500.0	26.7	-46.6		41.1	586.4	90.8	27.0
83000.0	26.1	-46.2		40.1	586.9	90.7	27.0

STATION ALTITUDE 3989.00 FEET MSL
 22 JULY 81 0730 HRS MDT
 ASCENSION NO. 471

UPPER AIR DATA
 2030020471
 WHITE SANDS
 GEODETIC COORDINATES
 32°40'04.3" LAT DEG
 106°37'03.3" LON DEG

WIND DATA
 DIRECTION
 SPEED
 KNOTS
 INDEX
 OF
 REFRACTION

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
83500.0	25.5	-45.8	39.1	587.4	90.8	27.1	1.00009
84000.0	25.0	-45.4	38.2	587.9	90.9	27.3	1.00008
84500.0	24.4	-45.0	37.2	588.4	91.9	27.6	1.00008
85000.0	23.8	-45.0	36.4	588.5	93.0	27.9	1.00008
85500.0	23.3	-45.1	35.6	588.3	94.1	28.2	1.00008
86000.0	22.8	-45.2	34.8	588.2	92.9	28.7	1.00008
86500.0	22.3	-45.3	34.1	588.1	91.4	29.2	1.00008
87000.0	21.8	-45.4	33.3	587.9	89.9	29.8	1.00007
87500.0	21.3	-45.5	32.6	587.8	87.9	31.3	1.00007
88000.0	20.8	-45.6	31.9	587.7	86.0	33.1	1.00007
88500.0	20.3	-45.7	31.2	587.5	84.3	34.8	1.00007
89000.0	19.9	-45.8	30.5	587.4	85.0	36.1	1.00007
89500.0	19.4	-45.7	29.8	587.5	85.6	37.4	1.00007
90000.0	19.0	-45.6	29.1	587.6	86.6	38.6	1.00006
90500.0	18.6	-45.6	28.4	587.7	88.6	38.8	1.00006
91000.0	18.2	-45.5	27.8	587.8	90.6	39.1	1.00006
91500.0	17.8	-45.4	27.2	587.9	92.9	39.3	1.00006
92000.0	17.4	-45.4	26.6	588.0	92.8	38.7	1.00006
92500.0	17.0	-45.3	26.0	588.1	92.7	38.1	1.00006
93000.0	16.6	-44.8	25.3	588.7	92.5	37.4	1.00006
93500.0	16.2	-44.4	24.7	589.2	94.7	39.0	1.00005
94000.0	15.9	-43.9	24.1	589.6	94.1	39.4	1.00005
94500.0	15.5	-43.5	23.5	590.4	94.5	39.8	1.00005
95000.0	15.2	-43.1	23.0	590.9	95.0	40.2	1.00005
95500.0	14.8	-42.6	22.4	591.5	95.5	40.6	1.00005

STATION ALTITUDE 3989.00 FEET MSL
 22 JULY 81 0730 HRS MDT
 ASCENSION NO. 471

MANDATORY LEVELS
 2n30020471
 WHITE SANDS

TABLE 8

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA	
					DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4972.	26.6	8.6	32.	129.8	1.0
800.0	6721.	24.7	6.5	31.	178.1	2.5
750.0	8564.	20.3	4.3	35.	23.7	1.0
700.0	10501.	15.5	1.6	39.	27.5	6.2
650.0	12546.	10.5	-6	46.	66.6	13.5
600.0	14715.	5.6	-9.4	33.	97.3	19.2
550.0	17022.	-1.1	-10.5	49.	99.4	22.0
500.0	19492.	-5.2	-21.7	26.	147.9	19.9
450.0	22190.	-9.7	-23.1	33.	187.5	19.7
400.0	25132.	-16.6	-28.7	34.	191.6	13.3
350.0	28375.	-24.3	-37.0	29.	203.7	5.6
300.0	32016.	-31.2	-44.6	25.	149.7	7.7
250.0	36176.	-40.4			78.2	7.6
200.0	41024.	-53.1			91.1	8.8
175.0	43817.	-58.6			354.6	6.2
150.0	46953.	-64.1			232.6	10.1
125.0	50555.	-70.7			263.2	10.9
100.0	54856.	-71.1			93.4	3.8
80.0	59249.	-63.7			73.3	12.0
70.0	61966.	-61.4			111.9	12.9
60.0	65102.	-60.1			89.4	19.3
50.0	68861.	-58.4			82.5	28.1
40.0	73502.	-55.1			90.2	34.3
30.0	79610.	-48.5			96.2	29.8
25.0	83573.	-45.4			90.9	27.2
20.0	88459.	-45.8			84.7	35.7
15.0	94769.	-42.6				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1030 HRS MDT
ASCENSION NO. 65

SIGNIFICANT LEVEL DATA

2030220065

NW 30

GEODETTIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
879.4	4010.4	30.4	5.6	21.0
872.6	4237.1	28.2	6.9	26.0
850.0	5001.0	27.7	10.9	35.0
784.0	7339.9	24.4	7.1	33.0
700.0	10557.6	16.8	2.8	39.0
643.8	12876.9	10.5	.5	50.0
565.0	16392.9	1.0	-9.3	46.0
539.8	17593.4	-2.0	-8.9	59.0
531.6	17993.1	-3.1	-10.6	56.0
515.2	18806.4	-3.7	-20.8	25.0
500.0	19584.8	-4.7	-23.1	22.0
491.0	20054.4	-5.1	-24.0	21.0
436.8	23038.4	-12.0	-23.4	38.0
400.0	25235.2	-16.6	-29.4	32.0
385.4	26152.1	-18.2	-31.5	30.0
357.6	27975.7	-22.9	-35.6	30.0
350.6	28453.1	-22.5	-35.9	28.0
324.0	30343.3	-27.0	-41.0	25.0
311.0	31312.9	-28.3	-42.1	25.0
300.0	32159.3	-30.6	-44.1	25.0
273.8	34272.3	-36.3	-48.1	28.0
262.0	35275.3	-38.0	-49.6	28.0
250.0	36332.8	-40.7		
200.0	41204.7	-53.1		
174.6	44049.3	-59.3		
165.8	45118.9	-58.6		
150.0	47167.7	-64.0		
129.8	50042.3	-70.8		
122.4	51189.8	-70.8		
115.2	52369.3	-72.8		
105.2	54131.7	-71.8		
100.0	55123.6	-69.6		
89.8	57259.7	-65.9		
78.2	60038.6	-64.8		
70.0	62283.4	-62.4		
62.6	64570.3	-60.7		
57.4	66366.6	-57.4		
50.0	69256.9	-56.1		
45.8	71107.0	-54.5		
30.0	80159.9	-49.9		

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1030 HRS MDT
ASCENSION NO. 65

SIGNIFICANT LEVEL DATA

203022065
NW 30

TABLE 9 CON'T

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEMPONT DEGREES CENTIGRADE	RFL. HUM. PERCENT
26.8	82616.3	-46.9	

GEOODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1030 HRS MDT
ASCENSION NO. 65

UPPER AIR DATA
2030220065
NW 30

TABLE 10

GEOMETRIC ALTITUDE HSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DENSITY CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS METER	DIRECTION DEGREES (TN)	WIND DATA KNOTS	INDEX OF REFRACTION
4010.4	879.4	30.4	5.6	21.0	1005.3	680.1	320.0	1.9
4500.0	864.8	28.0	8.4	29.1	995.4	677.7	317.4	1.1
5000.0	850.0	27.7	10.8	35.0	978.6	677.7	298.3	.3
5500.0	835.5	27.0	10.1	34.6	964.3	676.8	154.4	.6
6000.0	821.2	26.3	9.3	34.1	950.2	676.0	145.5	.3
6500.0	807.1	25.6	8.4	33.7	936.3	675.1	211.4	0
7000.0	793.3	24.9	7.6	33.3	922.6	674.2	264.6	.4
7500.0	779.6	24.0	6.9	33.3	909.5	673.2	318.6	1.2
8000.0	766.0	22.8	6.3	34.2	897.3	671.8	335.2	2.4
8500.0	752.6	21.7	5.6	35.2	885.3	670.4	346.8	4.3
9000.0	739.5	20.5	5.0	36.1	873.4	669.1	353.3	5.3
9500.0	726.6	19.3	4.3	37.0	861.8	667.7	359.4	5.9
10000.0	713.9	18.1	3.6	38.0	850.3	666.3	7.2	6.0
10500.0	701.4	16.9	2.9	38.9	838.9	664.9	14.1	6.4
11000.0	688.9	15.6	2.4	41.1	827.8	663.3	20.1	6.8
11500.0	676.6	14.2	2.0	43.5	816.9	661.7	29.3	6.7
12000.0	664.9	12.9	1.5	45.8	806.2	660.2	41.2	6.7
12500.0	652.6	11.5	1.0	48.2	795.6	658.6	65.8	6.5
13000.0	640.9	10.2	.2	49.9	785.1	656.9	89.7	7.6
13500.0	629.1	8.8	-1.2	49.3	774.6	655.3	107.7	10.1
14000.0	617.5	7.5	-2.6	48.7	764.2	653.6	115.8	12.6
14500.0	606.4	6.1	-4.0	48.2	754.0	652.0	120.2	14.9
15000.0	595.0	4.8	-5.4	47.6	743.9	650.3	121.4	15.9
15500.0	584.0	3.4	-6.8	47.0	733.9	648.6	122.0	17.1
16000.0	573.3	2.1	-8.2	46.4	724.1	647.0	121.6	18.8
16500.0	562.7	.7	-9.2	47.2	714.3	645.4	119.8	20.7
17000.0	552.1	-5	-9.0	52.6	704.0	643.9	117.6	22.9
17500.0	541.7	-1.8	-8.9	58.0	693.9	642.5	118.7	24.0
18000.0	531.5	-3.1	-10.7	55.7	684.3	640.8	121.6	24.4
18500.0	521.3	-3.5	-16.1	36.7	672.6	640.2	132.1	22.2
19000.0	511.4	-3.9	-21.4	24.3	661.3	639.5	145.9	19.6
19500.0	501.6	-4.6	-22.8	22.3	650.2	638.7	166.6	17.1
20000.0	492.0	-5.1	-23.9	21.1	638.9	638.1	184.3	16.0
20500.0	482.5	-6.1	-23.6	23.5	629.0	636.8	200.1	15.7
21000.0	473.1	-7.3	-23.3	26.4	619.5	635.5	206.6	13.9
21500.0	464.0	-8.4	-23.2	29.2	610.1	634.1	212.7	11.7
22000.0	454.9	-9.6	-23.1	32.1	600.9	632.7	213.4	10.3
22500.0	446.1	-10.8	-23.2	34.9	591.8	631.3	214.5	9.2
23000.0	437.5	-11.9	-23.4	37.8	582.9	629.9	218.3	10.0
23500.0	428.8	-13.0	-24.6	36.7	573.7	628.6	220.7	10.7

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1000 HRS MDT
ASCENSION NO. 69

UPPER AIR DATA
2030220065
NW 30
TABLE 10 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
24000.0	420.3	-14.0	-26.0	35.4	564.6	627.3	220.2
24500.0	412.0	-15.1	-27.3	34.0	555.7	626.0	218.7
25000.0	403.8	-16.1	-28.7	32.6	547.0	624.8	214.7
25500.0	395.7	-17.1	-30.0	31.4	538.1	623.6	213.5
26000.0	387.8	-17.9	-31.1	30.3	529.1	622.5	219.1
26500.0	379.9	-19.1	-32.2	30.0	520.8	621.1	240.2
27000.0	372.2	-20.4	-33.4	30.0	512.8	619.5	273.4
27500.0	364.7	-21.7	-34.5	30.0	505.0	617.9	259.8
28000.0	357.2	-22.9	-35.6	29.9	497.1	616.4	193.7
28500.0	349.9	-22.6	-36.1	27.9	486.4	616.7	160.6
29000.0	342.7	-23.8	-37.4	27.1	478.6	615.3	149.8
29500.0	335.6	-25.0	-38.7	26.3	471.0	613.8	149.1
30000.0	328.7	-26.2	-40.1	25.5	463.5	612.3	151.4
30500.0	321.9	-27.2	-41.2	25.0	455.8	611.0	154.6
31000.0	315.1	-27.9	-41.7	25.0	447.5	610.2	159.1
31500.0	308.5	-28.8	-42.5	25.0	439.8	609.0	164.5
32000.0	302.0	-30.2	-43.7	25.0	433.0	607.3	175.1
32500.0	295.6	-31.5	-44.7	25.5	426.1	605.6	196.9
33000.0	289.3	-32.9	-45.7	26.2	419.4	603.9	232.4
33500.0	283.1	-34.2	-46.6	26.9	412.7	602.2	289.0
34000.0	277.0	-35.6	-47.6	27.6	406.2	600.5	288.3
34500.0	271.1	-36.7	-48.5	28.0	399.3	599.1	279.9
35000.0	265.2	-37.5	-49.2	28.0	392.0	598.0	193.3
35500.0	259.4	-38.6	-52.1	22.0**	385.2	596.7	171.4
36000.0	253.7	-39.9	-60.5	8.8**	378.8	595.1	155.1
36500.0	248.1	-41.1			372.5	593.4	149.8
37000.0	242.5	-42.4			366.1	591.8	148.1
37500.0	237.0	-43.7			359.8	590.2	147.0
38000.0	231.6	-44.9			353.6	588.5	147.0
38500.0	226.4	-46.2			347.5	586.9	147.0
39000.0	221.3	-47.5			341.6	585.2	144.6
39500.0	216.2	-48.8			335.7	583.6	139.7
40000.0	211.3	-50.0			330.0	581.9	129.7
40500.0	206.6	-51.3			324.4	580.3	114.0
41000.0	201.9	-52.6			318.9	578.6	91.4
41500.0	197.2	-53.7			313.1	577.1	64.3
42000.0	192.5	-54.8			307.2	575.6	26.9
42500.0	188.0	-55.9			301.5	574.2	355.6
43000.0	183.6	-57.0			295.9	572.7	302.8
43500.0	179.2	-58.1			290.4	571.3	278.1

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1030 HRS MDT
 ASCENSION 1.0. 65

UPPER AIR DATA
 2030220065
 NW 30

TABLE 10 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
44000.0	175.0	-59.2		285.0	569.8	266.3	6.0	1.00063
44500.0	170.8	-59.0		277.9	570.1	260.3	10.6	1.00062
45000.0	166.8	-58.7		270.9	570.5	257.6	13.0	1.00060
45500.0	162.7	-59.6		265.5	569.3	258.9	14.9	1.00059
46000.0	158.8	-60.9		260.7	567.5	259.9	16.7	1.00058
46500.0	155.0	-62.2		256.0	565.8	261.9	17.7	1.00057
47000.0	151.2	-63.6		251.4	564.0	263.7	18.7	1.00056
47500.0	147.5	-64.8		246.6	562.4	266.3	19.0	1.00055
48000.0	143.8	-66.0		241.9	560.8	269.5	18.7	1.00054
48500.0	140.3	-67.2		237.2	559.1	273.1	18.2	1.00053
49000.0	136.8	-68.3		232.7	557.5	277.8	16.9	1.00052
49500.0	133.4	-69.5		228.2	555.9	283.2	15.8	1.00051
50000.0	130.1	-70.7		223.8	554.3	278.2	13.6	1.00050
50500.0	126.8	-70.8		218.3	554.2	270.9	11.6	1.00049
51000.0	123.6	-70.8		212.8	554.2	262.7	11.0	1.00047
51500.0	120.5	-71.3		207.9	553.5	254.7	10.9	1.00046
52000.0	117.4	-72.2		203.5	552.3	249.4	10.6	1.00045
52500.0	114.4	-72.7		198.9	551.5	249.4	9.7	1.00044
53000.0	111.5	-72.4		193.6	551.9	249.5	8.8	1.00043
53500.0	108.7	-72.2		188.4	552.3	248.1	6.5	1.00042
54000.0	105.9	-71.9		183.3	552.7	244.1	4.0	1.00041
54500.0	103.2	-71.0		177.9	553.9	231.6	1.5	1.00040
55000.0	100.6	-69.9		172.5	555.4	275.4	.4	1.00038
55500.0	98.1	-68.9		167.4	556.7	59.6	2.3	1.00037
56000.0	95.7	-68.1		162.5	557.9	60.2	3.9	1.00036
56500.0	93.3	-67.2		157.8	559.1	63.8	5.1	1.00035
57000.0	91.0	-66.3		153.3	560.2	66.1	6.2	1.00034
57500.0	88.7	-65.8		149.1	561.0	69.3	8.0	1.00033
58000.0	86.6	-65.6		145.3	561.2	72.4	10.5	1.00032
58500.0	84.4	-65.4		141.6	561.5	74.3	13.0	1.00032
59000.0	82.3	-65.2		138.0	561.8	73.1	14.4	1.00031
59500.0	80.3	-65.0		134.4	562.0	71.7	15.7	1.00030
60000.0	78.4	-64.8		131.0	562.3	73.0	16.6	1.00029
60500.0	76.4	-64.3		127.5	563.0	81.1	16.4	1.00028
61000.0	74.6	-63.8		124.1	563.7	89.2	16.5	1.00028
61500.0	72.8	-63.2		120.7	564.4	95.4	16.2	1.00027
62000.0	71.0	-62.7		117.5	565.2	100.8	15.4	1.00026
62500.0	69.3	-62.2		114.4	565.8	106.8	14.8	1.00025
63000.0	67.6	-61.9		111.4	566.3	106.9	13.9	1.00025
63500.0	66.0	-61.5		108.6	566.8	105.3	12.9	1.00024

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1030 HRS MDT
 ASCENSION NO. 65

UPPER AIR DATA
 2n30220065
 NW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 10 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEPOINT PERCENT	REL.HUM. CENTIGRADE	REL.HUM. PERCENT	DEENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
64000.0	64.4	-61.1				105.8	567.3	103.5	11.9	1.000024
64500.0	62.8	-60.8				103.0	567.8	104.0	13.8	1.000023
65000.0	61.3	-59.9				100.2	568.9	104.5	15.6	1.000022
65500.0	59.9	-59.0				97.4	570.1	104.7	17.3	1.000022
66000.0	58.4	-58.1				94.6	571.3	103.3	17.2	1.000021
66500.0	57.0	-57.3				92.1	572.3	101.8	17.1	1.000021
67000.0	55.7	-57.1				89.8	572.6	100.5	17.1	1.000020
67500.0	54.4	-56.9				87.6	572.9	99.6	17.5	1.000020
68000.0	53.1	-56.7				85.4	573.2	98.7	17.9	1.000019
68500.0	51.8	-56.4				83.3	573.5	98.1	18.3	1.000019
69000.0	50.6	-56.2				81.3	573.8	99.0	19.3	1.000018
69500.0	49.4	-55.9				79.3	574.2	99.9	20.2	1.000018
70000.0	48.3	-55.5				77.2	574.8	100.4	21.3	1.000017
70500.0	47.1	-55.0				75.3	575.4	99.5	22.5	1.000017
71000.0	46.0	-54.6				73.4	575.9	98.7	23.8	1.000016
71500.0	45.0	-54.3				71.6	576.3	97.9	25.0	1.000016
72000.0	43.9	-54.0				69.8	576.7	96.3	25.4	1.000016
72500.0	42.9	-53.8				68.2	577.0	94.7	25.8	1.000015
73000.0	41.9	-53.5				66.5	577.3	93.2	26.2	1.000015
73500.0	41.0	-53.3				64.9	577.7	90.4	27.9	1.000014
74000.0	40.0	-53.0				63.3	578.0	87.9	29.7	1.000014
74500.0	39.1	-52.8				61.8	578.3	85.7	31.6	1.000014
75000.0	38.2	-52.5				60.3	578.7	86.8	34.0	1.000013
75500.0	37.3	-52.3				58.8	579.0	88.2	36.6	1.000013
76000.0	36.4	-52.0				57.4	579.3	89.4	39.1	1.000013
76500.0	35.6	-51.8				56.0	579.7	91.3	39.0	1.000012
77000.0	34.8	-51.5				54.7	580.0	93.5	38.2	1.000012
77500.0	34.0	-51.3				53.3	580.3	95.8	37.5	1.000012
78000.0	33.2	-51.0				52.0	580.7	96.7	35.9	1.000012
78500.0	32.4	-50.7				50.8	581.0	97.0	34.0	1.000011
79000.0	31.7	-50.5				49.6	581.3	97.3	32.0	1.000011
79500.0	30.9	-50.2				48.4	581.7	96.6	30.7	1.000011
80000.0	30.2	-50.0				47.2	582.0	95.3	29.7	1.000011
80500.0	29.5	-49.5				46.0	582.6	93.9	28.8	1.000010
81000.0	28.9	-48.9				44.8	583.4	94.8	28.4	1.000010
81500.0	28.2	-48.3				43.7	584.2	93.7	28.3	1.000010
82000.0	27.6	-47.7				42.6	585.0	92.6	27.7	1.000009
82500.0	26.9	-47.0				41.5	585.8	91.5	27.0	1.000009

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1030 HRS MDT
 ASCENSION NO. 65

MANDATORY LEVELS
 2n3022n065
 NW 30

GEODETIC COORDINATES
 32°88497 LAT DEG
 106.49714 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE			REL. HUM. PERCENT	DIRECTION DEGREES (TN)	WIND SPEED KNOTS
		AIR DEGREES	Dewpoint CENTIGRADE	KEL.			
850.0	4998.	27.7	10.9	35.	298.5	.3	
800.0	6753.	25.2	8.0	33.	260.0	.2	
750.0	8601.	21.4	5.5	35.	348.1	4.6	
700.0	10547.	16.8	2.8	39.	14.8	6.4	
650.0	12601.	11.2	-.8	49.	71.0	6.6	
600.0	14772.	5.4	-4.8	48.	120.9	15.5	
550.0	17081.	-.8	-9.0	54.	117.7	25.1	
500.0	19557.	-4.7	-23.1	22.	170.1	17.0	
450.0	22252.	-10.2	-23.2	34.	213.8	9.6	
400.0	25193.	-16.6	-29.4	32.	212.4	6.4	
350.0	28443.	-22.6	-36.0	28.	161.3	5.4	
300.0	32095.	-30.6	-44.1	25.	180.6	5.7	
250.0	36253.	-40.7			151.3	4.4	
200.0	41105.	-53.1			81.4	2.4	
175.0	43889.	-59.2			2b6.6	7.9	
150.0	47040.	-64.0			264.2	19.0	
125.0	50632.	-70.8			266.6	11.1	
100.0	54953.	-69.6			66.2	.8	
80.0	59383.	-65.0			71.5	15.9	
70.0	62070.	-62.4			103.8	15.1	
60.0	65211.	-59.1			104.8	17.2	
50.0	68996.	-56.1			99.4	19.7	
40.0	73688.	-53.0			88.2	29.5	
30.0	79816.	-49.9			95.0	29.5	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 81 1130 HRS MDT
 ASCENSION NO. 83

SIGNIFICANT LEVEL DATA
 2030030083
 JALLEN
 TABLE 12

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPPOINT DEGREES CENTIGRADE	RFL.HUM. PERCENT
877.0	4051.0	31.6	9.2	25.0
872.2	4212.7	31.7	10.4	27.0
850.0	4970.7	29.9	10.5	30.0
828.7	5711.5	27.5	8.4	30.0
805.0	6553.9	26.8	7.8	30.0
700.0	10543.2	17.5	3.0	38.0
624.4	13703.6	8.7	-2.0	47.0
590.6	15207.2	4.8	-8.6	57.0
538.0	17677.5	-2.2	-9.5	57.0
524.6	18335.2	-3.5	-15.7	38.0
500.0	19581.9	-4.3	-23.8	20.0
460.6	21693.3	-8.3	-23.5	28.0
416.0	24266.4	-13.9	-29.2	26.0
400.0	25242.0	-16.4	-30.6	28.0
359.6	27846.9	-22.6	-36.0	28.0
357.6	27981.0	-21.4	-36.1	25.0
312.8	31188.7	-27.9	-43.4	21.0
300.0	32171.7	-30.5	-45.2	22.0
276.2	34085.2	-35.8	-47.4	29.0
264.2	35099.9	-36.9	-49.6	25.0
250.0	36349.7	-40.4		
200.0	41232.4	-52.4		
180.6	43381.5	-57.5		
166.8	45030.8	-59.0		
150.0	47199.0	-64.3		
115.0	52450.5	-72.8		
100.0	55186.9	-68.3		
82.4	59055.9	-64.5		
76.4	60594.0	-61.0		
70.0	62391.5	-60.4		
50.0	69385.6	-56.2		
45.2	71518.6	-53.4		
38.4	74981.1	-54.2		
30.0	80291.6	-47.9		
24.0	85192.7	-45.1		

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1130 HRS MDT
ASCENSION NO. 83

UPPER AIR DATA
2n3003n083
JALLEN
TABLE 13

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPP FU OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
4051.0	877.0	31.6	9.2	25.0	997.5	681.8	0	1.000270
4500.0	863.7	31.0	10.4	28.1	983.7	681.3	.1	1.000271
5000.0	849.1	29.8	10.4	30.0	970.9	680.0	.2	1.000268
5500.0	834.7	28.2	9.0	30.0	960.0	678.0	.3	1.000262
6000.0	820.5	27.3	6.2	30.0	946.7	676.9	.4	1.000257
6500.0	806.5	26.8	7.8	30.0	931.9	676.4	1.5	1.000252
7000.0	792.5	25.8	7.3	30.9	919.1	675.2	3.3	1.000248
7500.0	778.8	24.6	6.8	31.9	906.8	673.8	3.0	1.000244
8000.0	765.2	23.4	6.2	32.9	894.6	672.5	3.1	1.000240
8500.0	751.9	22.3	5.6	33.9	882.7	671.1	5.2	1.000236
9000.0	738.9	21.1	5.0	34.9	870.9	669.8	7.0	1.000232
9500.0	726.1	19.9	4.4	35.9	859.2	668.4	9.7	1.000228
10000.0	713.4	18.8	3.8	36.9	847.8	667.0	19.5	1.000225
10500.0	701.1	17.6	3.1	37.9	836.5	665.7	7.5	1.000221
11000.0	688.1	16.2	2.4	39.3	825.6	664.0	47.6	1.000217
11500.0	676.2	14.8	1.6	40.7	814.8	662.4	66.2	1.000213
12000.0	664.1	13.4	.9	42.1	804.2	660.7	89.5	1.000209
12500.0	652.2	12.1	.1	43.6	793.8	659.1	109.7	1.000205
13000.0	640.5	10.7	-8	45.0	783.5	657.4	122.7	1.000202
13500.0	629.0	9.3	-1.6	46.4	773.4	655.8	131.4	1.000198
14000.0	617.6	7.9	-3.2	45.0	763.2	654.1	137.5	1.000193
14500.0	606.3	6.6	-5.4	41.7	753.0	652.5	137.3	1.000187
15000.0	595.1	5.3	-7.7	38.4	742.9	650.6	135.1	1.000182
15500.0	584.1	4.0	-8.6	39.4	732.8	649.2	131.9	1.000179
16000.0	573.2	2.6	-8.6	43.4	722.7	647.5	129.1	1.000177
16500.0	562.5	1.1	-8.8	47.5	712.9	645.9	127.1	1.000175
17000.0	551.9	-0.3	-9.0	51.5	703.2	644.2	127.3	1.000172
17500.0	541.6	-1.7	-9.4	55.6	693.6	642.5	131.2	1.000170
18000.0	531.4	-2.8	-12.4	47.7	683.7	641.1	138.3	1.000165
18500.0	521.3	-3.6	-16.6	35.6	672.9	640.0	149.6	1.000159
19000.0	511.3	-3.9	-19.5	28.4	661.0	639.5	162.5	1.000154
19500.0	501.6	-4.2	-23.1	21.2	649.3	639.1	180.7	1.000150
20000.0	491.9	-5.1	-23.7	21.6	638.9	638.1	197.2	1.000147
20500.0	482.5	-6.0	-23.5	23.5	628.8	636.9	213.3	1.000145
21000.0	473.2	-7.0	-23.5	25.4	618.9	635.8	222.4	1.000143
21500.0	464.1	-7.9	-23.5	27.3	609.1	634.7	224.6	1.000141
22000.0	455.0	-9.0	-24.2	27.8	599.6	633.4	220.6	1.000138
22500.0	446.1	-10.1	-25.3	27.4	590.3	632.1	218.3	1.000136
23000.0	437.4	-11.1	-26.4	27.0	581.2	630.4	216.9	1.000133
23500.0	428.8	-12.2	-27.5	26.6	572.2	629.5	217.5	1.000131

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 130 HRS MDT
ASCENSION NO. 83

IOPFR AIR DATA
2030030083
JALLEN
TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION IN DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
24000.0	420.4	-13.3	-28.6	26.2	563.4	628.1	219.1	10.8
24500.0	412.1	-14.5	-29.5	26.5	554.8	626.7	218.8	10.5
25000.0	403.9	-15.8	-30.2	27.5	546.5	625.1	216.9	10.0
25500.0	395.8	-17.0	-31.1	28.0	538.1	623.6	216.1	9.5
26000.0	387.8	-18.2	-32.2	28.0	529.7	622.2	216.6	6.2
26500.0	379.9	-19.4	-33.2	28.0	521.4	620.7	219.8	4.5
27000.0	372.3	-20.6	-34.3	28.0	513.3	619.2	227.0	3.2
27500.0	364.7	-21.8	-35.3	28.0	505.3	617.8	205.1	3.4
28000.0	357.3	-21.4	-36.1	25.0	494.4	618.2	184.9	4.5
28500.0	349.9	-22.5	-37.3	24.4	486.1	616.9	167.3	5.9
29000.0	342.7	-23.5	-38.4	23.7	478.0	615.7	157.2	7.6
29500.0	335.6	-24.5	-39.5	23.1	470.1	614.4	156.5	8.7
30000.0	328.7	-25.5	-40.7	22.5	462.3	613.1	156.6	9.5
30500.0	321.9	-26.5	-41.8	21.9	454.6	611.9	159.9	9.3
31000.0	315.3	-27.5	-42.9	21.2	447.1	610.6	163.3	8.9
31500.0	308.7	-28.7	-43.9	21.3	439.9	609.1	167.8	7.1
32000.0	302.2	-30.0	-44.9	21.8	433.0	607.5	174.8	5.4
32500.0	295.8	-31.4	-45.5	23.2	426.2	605.8	177.9	4.6
33000.0	289.5	-32.8	-46.0	25.0	419.5	604.0	182.1	3.8
33500.0	283.3	-34.2	-46.6	26.9	412.9	602.3	183.2	3.7
34000.0	277.2	-35.6	-47.2	28.7	406.4	600.5	184.3	3.6
34500.0	271.2	-36.2	-48.3	27.4	398.8	599.7	187.0	3.5
35000.0	265.4	-36.8	-49.4	25.4	391.1	599.0	190.1	3.3
35500.0	259.6	-38.0	-53.8	17.06*	384.6	597.4	191.3	3.4
36000.0	253.9	-39.4	-61.9	7.00*	378.4	595.6	191.9	3.6
36500.0	248.3	-40.8			372.2	593.9	186.7	4.2
37000.0	242.7	-42.0			365.7	592.3	181.9	5.1
37500.0	237.2	-43.2			359.4	590.7	173.2	5.9
38000.0	231.8	-44.5			353.2	589.1	165.9	6.8
38500.0	226.6	-45.7			347.0	587.6	160.7	6.6
39000.0	221.5	-46.9			341.0	586.0	155.0	6.1
39500.0	216.5	-48.1			335.2	584.4	150.4	4.9
40000.0	211.6	-49.4			329.4	582.8	144.5	3.4
40500.0	206.8	-50.6			323.7	581.2	137.0	2.0
41000.0	202.1	-51.8			318.2	579.6	126.8	.5
41500.0	197.5	-53.0			312.5	578.0	323.7	.9
42000.0	192.8	-54.2			306.9	576.4	307.6	2.1
42500.0	188.3	-55.4			301.3	574.9	303.1	3.3
43000.0	183.9	-56.6			295.8	573.3	286.6	4.2
43500.0	179.6	-57.6			290.2	572.0	275.6	5.4

* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 81 1130 HRS MDT
 ASCENSION NO. 83

UPPER AIR DATA
 2N3003N083

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

JALLEN

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	GM/CUBIC METER	SOUND KNOTS	SPEED OF WIND DATA DIRECTION DEGREES(TN) KNOTS	INDEX OF REFRACTION
44000.0	175.3	-58.1	283.9	571.4	271.6	7.7	1.000063
44500.0	171.1	-58.5	277.7	570.7	270.6	10.6	1.000062
45000.0	167.0	-59.0	271.7	570.1	273.0	13.0	1.000061
45500.0	163.0	-60.1	266.6	568.6	279.1	14.7	1.000059
46000.0	159.1	-61.4	261.7	566.9	283.1	16.4	1.000058
46500.0	155.2	-62.6	256.8	565.3	279.2	16.5	1.000057
47000.0	151.5	-63.8	252.1	563.7	275.4	16.8	1.000056
47500.0	147.7	-64.8	247.0	562.3	271.2	17.8	1.000055
48000.0	144.0	-65.6	241.8	561.3	267.3	19.1	1.000054
48500.0	140.4	-66.4	236.6	560.2	266.2	19.2	1.000053
49000.0	136.9	-67.2	231.6	559.1	268.3	17.6	1.000052
49500.0	133.5	-68.0	226.7	558.0	270.9	16.1	1.000051
50000.0	130.2	-68.8	222.0	556.9	269.0	15.9	1.000049
50500.0	126.9	-69.6	217.3	555.8	266.9	15.9	1.000048
51000.0	123.8	-70.5	212.7	554.7	264.1	15.9	1.000047
51500.0	120.7	-71.3	208.2	553.5	260.5	16.1	1.000046
52000.0	117.7	-72.1	203.8	552.4	256.8	16.2	1.000045
52500.0	114.7	-72.7	199.4	551.5	240.8	13.6	1.000044
53000.0	111.8	-71.9	193.6	552.7	219.8	12.5	1.000043
53500.0	109.0	-71.1	187.9	553.8	206.3	11.5	1.000042
54000.0	106.2	-70.3	182.4	554.9	196.9	10.1	1.000041
54500.0	103.6	-69.4	177.1	556.0	187.0	8.6	1.000039
55000.0	101.0	-68.6	171.9	557.2	190.3	5.1	1.000038
55500.0	98.4	-68.0	167.2	558.0	206.5	1.7	1.000037
56000.0	96.0	-67.5	162.6	558.7	327.3	1.2	1.000036
56500.0	93.6	-67.0	158.2	559.3	350.9	3.0	1.000035
57000.0	91.3	-66.5	154.0	560.0	.5	4.7	1.000034
57500.0	89.1	-66.0	149.8	560.7	33.5	5.9	1.000033
58000.0	86.9	-65.5	145.8	561.3	51.8	8.2	1.000032
58500.0	84.7	-65.0	141.8	562.0	64.9	9.7	1.000032
59000.0	82.6	-64.6	138.0	562.7	76.3	10.9	1.000031
59500.0	80.6	-63.5	134.0	564.1	85.5	12.5	1.000030
60000.0	78.7	-62.4	130.0	565.6	93.6	14.4	1.000029
60500.0	76.8	-61.2	126.2	567.2	99.8	16.5	1.000028
61000.0	74.9	-60.9	122.9	567.6	106.8	16.9	1.000027
61500.0	73.1	-60.7	119.9	567.8	118.4	17.5	1.000027
62000.0	71.3	-60.5	116.9	568.1	126.9	17.6	1.000026
62500.0	69.6	-60.3	114.0	568.3	135.7	14.1	1.000025
63000.0	68.0	-60.0	111.1	568.7	149.5	11.2	1.000025
63500.0	66.4	-59.7	10A.3	569.1	150.0	10.0	1.000024

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 81 130 HRS MDT
 ASCENSION NO. 83

UPPER AIR DATA
 2030030083
 JALLEN
 TABLE 13 CON'T

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
64000.0	64.8	-59.4			105.6	569.5	133.0	1.000024
64500.0	63.2	-59.1			103.0	569.9	119.1	1.000023
65000.0	61.7	-58.8			100.4	570.3	112.6	1.000022
65500.0	60.3	-58.5			97.8	570.7	108.6	1.000022
66000.0	58.8	-58.2			95.4	571.1	106.1	1.000021
66500.0	57.4	-57.9			93.0	571.5	107.0	1.000021
67000.0	56.1	-57.6			90.6	571.9	108.1	1.000020
67500.0	54.7	-57.3			88.4	572.3	107.9	1.000019
68000.0	53.4	-57.0			86.2	572.7	104.6	1.000019
68500.0	52.2	-56.7			84.0	573.1	100.9	1.000019
69000.0	50.9	-56.4			81.9	573.5	96.5	1.000018
69500.0	49.7	-56.0			79.8	574.0	92.0	1.000018
70000.0	48.6	-55.4			77.7	574.9	87.9	1.000017
70500.0	47.4	-54.7			75.7	575.8	84.8	1.000017
71000.0	46.3	-54.1			73.7	576.6	82.8	1.000016
71500.0	45.2	-53.4			71.7	577.5	81.4	1.000016
72000.0	44.2	-53.5			70.1	577.4	80.4	1.000016
72500.0	43.2	-53.6			68.5	577.2	79.5	1.000015
73000.0	42.2	-53.7			66.9	577.1	80.9	1.000015
73500.0	41.2	-53.9			65.4	576.9	82.6	1.000015
74000.0	40.2	-54.0			63.9	576.8	84.3	1.000014
74500.0	39.3	-54.1			62.5	576.6	85.8	1.000014
75000.0	38.4	-54.2			61.0	576.5	87.2	1.000014
75500.0	37.5	-53.6			59.5	577.3	88.5	1.000013
76000.0	36.6	-53.0			58.0	578.0	89.9	1.000013
76500.0	35.6	-52.4			56.5	578.8	91.3	1.000013
77000.0	35.0	-51.8			55.0	579.6	94.3	1.000012
77500.0	34.2	-51.2			53.6	580.4	97.2	1.000012
78000.0	33.4	-50.6			52.2	581.2	99.7	1.000012
78500.0	32.6	-50.0			50.9	581.9	100.9	1.000011
79000.0	31.9	-49.4			49.6	582.7	102.2	1.000011
79500.0	31.1	-48.8			48.3	583.5	101.5	1.000011
80000.0	30.4	-48.2			47.1	584.2	97.7	1.000010
80500.0	29.7	-47.6			45.9	584.8	92.9	1.000010
81000.0	29.0	-47.5			44.8	585.2	88.8	1.000010
81500.0	28.4	-47.2			43.8	585.6	85.8	1.000010
82000.0	27.8	-46.9			42.7	586.0	83.2	1.000010
82500.0	27.1	-46.6			41.7	586.3	84.1	1.000009
83000.0	26.5	-46.4			40.7	586.7	85.5	1.000009
83500.0	25.9	-46.1			39.8	587.1	86.7	1.000009

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1130 HRS MDT
ASCENSION NO. 83

IOPP, R AIR DATA
20300300083
JALLEN

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
84000.0	25.3	-45.8			38.8	587.4		1.00009
84500.0	24.8	-45.5			37.9	587.8		1.00008
85000.0	24.2	-45.2			37.0	588.2		1.00008

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 81 1130 HRS MDT
 ASCENSION NO. 83

MANDATORY LEVELS
 2n3003n083
 JALLEN
 TABLE 14

MILLIBARS	FEET	PRESSURE GEOPOTENTIAL DEGREES	TEMPERATURE AIR DEPOINT CENTIGRADE	RFL.HUM. PERCENT	WIND DATA	
					DIRECTION DEGREES(1TN)	SPEED KNOTS
850.0	4967.	29.9	10.5	30.	334.5	.2
800.0	6729.	26.4	7.6	30.	355.3	2.3
750.0	8583.	22.1	5.5	34.	4.1	5.5
700.0	10533.	17.5	3.0	38.	33.9	7.5
650.0	12591.	11.8	-.1	44.	112.6	6.5
600.0	14766.	5.9	-6.7	40.	136.0	13.0
550.0	17078.	-.5	-9.1	52.	128.0	20.6
500.0	19555.	-4.3	-23.8	20.	182.9	13.9
450.0	22253.	-9.6	-24.8	28.	218.9	11.5
400.0	25201.	-16.4	-30.6	28.	216.0	9.8
350.0	28450.	-22.4	-37.3	24.	167.6	5.9
300.0	32108.	-30.5	-45.2	22.	175.7	5.1
250.0	36271.	-40.4			188.7	4.0
200.0	41133.	-52.4			212.3	.2
175.0	43925.	-58.1			271.6	7.8
150.0	47072.	-64.3			274.0	17.0
125.0	50680.	-70.1			265.5	15.8
100.0	55017.	-68.3			192.5	4.0
80.0	59458.	-63.1			87.8	13.0
70.0	62178.	-60.4			132.9	15.0
60.0	65344.	-58.5			108.3	17.5
50.0	69125.	-56.2			93.2	13.7
40.0	73821.	-54.0			84.5	31.9
30.0	79949.	-47.9			95.4	23.8
25.0	83915.	-45.6				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1330 HRS MDT
 ASCENSION NO. 66

SIGNIFICANT LEVEL DATA
 2030220066
 NW 30
 TABLE 15

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	RFL.HUM. PERCENT
877.6	4010.4	38.0	6.9 15.0
865.2	4436.3	35.0	10.8 23.0
850.0	4963.1	33.3	9.4 23.0
760.6	8204.2	23.8	5.2 30.0
700.0	10560.1	17.4	7.3 30.0
644.0	12872.8	11.1	7.2 27.0
609.8	14358.7	7.1	7.3 35.0
592.8	15120.5	5.0	5.6 46.0
567.8	16270.4	1.8	11.0 38.0
543.0	17448.4	-1.2	12.4 42.0
526.6	18250.0	-3.0	19.8 26.0
500.0	19595.8	-4.6	23.5 21.0
433.4	23246.1	-11.9	27.9 25.0
400.0	25250.1	-16.0	32.7 22.0
375.8	26785.4	-20.0	34.5 26.0
360.6	27787.8	-22.7	36.5 27.0
340.6	29162.3	-24.0	39.6 22.0
300.0	32175.4	-30.0	45.6 20.0
283.6	33484.1	-33.6	47.9 22.0
271.4	34496.6	-35.3	49.3 22.0
260.0	35477.0	-37.4	50.6 23.0
250.0	36364.3	-39.9	
226.6	38550.9	-45.2	
200.0	41257.7	-51.9	
186.2	42773.9	-55.0	
172.4	44389.0	-56.8	
150.0	47243.8	-64.7	
134.2	49456.3	-70.0	
115.4	52394.5	-73.3	
101.6	54659.2	-72.5	
100.0	55169.3	-69.5	
88.4	57623.3	-65.0	
82.0	59135.7	-65.0	
75.8	60725.4	-63.1	
70.0	62337.1	-64.5	
64.8	63901.3	-62.8	
59.4	65694.6	-57.4	
54.2	67605.4	-57.8	
50.0	69296.1	-55.3	
42.5	72724.0	-55.2	

STATION ALTITUDE 4019.40 FEET MSL
22 JULY 81 1:30 HRS MDT
ASCENSION NO. 66

UPPER AIR DATA
2n3022n066
NW 30
TABLE 16

GEOGRAPHIC COORDINATES
32.08497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	SPEED OF SOUND KNOTS METER	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INFLUX OF REFRACTION
4010.4	877.6	38.0	6.9	15.0	978.4	688.7	50.0 2.9 1.000257
4500.0	863.3	34.8	10.6	23.0	971.2	685.6	72.2 2.3 1.000268
5000.0	848.9	33.2	9.3	23.1	960.3	683.7	102.4 2.2 1.000261
5500.0	834.5	31.7	8.8	24.2	948.6	682.0	127.7 2.7 1.000258
6000.0	820.3	30.3	8.2	25.2	937.1	680.3	143.2 3.6 1.000254
6500.0	806.4	28.8	7.6	26.3	925.8	678.6	152.4 4.6 1.000250
7000.0	792.7	27.3	6.9	27.4	914.6	676.9	156.4 3.8 1.000246
7500.0	779.2	25.9	6.2	28.5	903.6	675.2	162.6 1.2 1.000242
8000.0	765.9	24.4	5.5	29.6	892.8	673.5	328.8 1.5 1.000238
8500.0	752.7	23.0	4.5	30.0	881.7	671.8	343.4 3.7 1.000233
9000.0	739.6	21.6	3.3	30.0	870.5	670.2	348.3 5.3 1.000228
9500.0	726.6	20.3	2.2	30.0	859.5	668.6	357.8 4.5 1.000223
10000.0	714.0	18.9	1.0	30.0	848.6	667.0	4.4 3.4 1.000218
10500.0	701.5	17.6	-2	30.0	837.9	665.3	9.2 1.7 1.000214
11000.0	689.0	16.2	-1.6	29.4	827.0	663.7	69.1 .4 1.000209
11500.0	676.7	14.8	-3.1	28.8	816.3	662.0	154.7 1.6 1.000204
12000.0	664.6	13.5	-4.6	28.1	805.7	660.4	157.8 3.7 1.000200
12500.0	652.7	12.1	-6.1	27.5	795.3	658.7	153.2 5.8 1.000195
13000.0	641.0	10.8	-7.1	27.7	784.9	657.1	144.2 6.3 1.000192
13500.0	629.3	9.4	-7.1	30.4	774.2	655.6	135.6 10.7 1.000190
14000.0	617.9	8.1	-7.2	33.1	763.8	654.0	127.7 13.3 1.000187
14500.0	606.6	6.7	-6.9	37.0	753.4	652.5	123.0 15.1 1.000185
15000.0	595.5	5.3	-5.8	44.3	743.0	650.9	119.3 16.7 1.000185
15500.0	584.4	3.9	-7.4	43.4	733.1	649.2	118.9 16.3 1.000181
16000.0	573.6	2.6	-9.7	39.9	723.4	647.5	118.8 19.9 1.000176
16500.0	562.9	1.2	-11.2	38.8	713.5	645.9	120.8 20.7 1.000172
17000.0	552.3	-1	-11.9	40.5	703.4	644.3	122.8 21.3 1.000169
17500.0	541.9	-1.3	-12.8	41.0	693.4	642.8	128.2 19.1 1.000166
18000.0	531.7	-2.4	-17.2	31.0	683.4	641.3	134.9 17.1 1.000160
18500.0	521.6	-3.3	-20.4	25.1	672.7	640.2	149.4 13.1 1.000156
19000.0	511.6	-3.9	-21.8	23.2	661.4	639.5	173.9 10.5 1.000153
19500.0	501.8	-4.5	-23.3	21.4	650.3	638.8	197.3 8.0 1.000150
20000.0	492.1	-5.4	-24.0	21.4	639.9	637.7	231.0 7.2 1.000147
20500.0	482.6	-6.4	-24.6	22.0	629.9	636.5	247.0 7.0 1.000145
21000.0	473.2	-7.4	-25.1	22.5	620.0	635.3	260.8 7.0 1.000142
21500.0	464.1	-8.4	-25.7	23.1	610.3	634.1	254.1 7.1 1.000140
22000.0	455.1	-9.4	-26.3	23.6	600.7	632.9	245.3 7.5 1.000138
22500.0	446.2	-10.4	-26.9	24.2	591.3	631.7	239.9 8.1 1.000135
23000.0	437.6	-11.4	-27.6	24.7	582.1	630.4	235.4 8.8 1.000133
23500.0	429.0	-12.4	-28.5	24.6	572.9	629.2	233.4 8.4 1.000131

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1300 HRS MDT
ASCENSION NO. 66

UPPER AIR DATA
2030220066
NW 30
TABLE 16 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	420.5	-13.4	-29.7	23.9	563.8	628.0	230.3	8.0
24500.0	412.2	-14.5	-30.9	23.1	554.9	626.7	222.7	7.4
25000.0	404.0	-15.5	-32.1	22.4	546.0	625.5	214.7	6.7
25500.0	396.0	-16.7	-33.0	22.7	537.6	624.0	205.9	5.7
26000.0	388.0	-18.0	-33.5	24.0	529.5	622.5	194.2	5.0
26500.0	380.2	-19.3	-34.1	25.3	521.5	620.9	179.4	4.5
27000.0	372.5	-20.6	-34.9	26.2	513.6	619.2	169.9	4.6
27500.0	364.9	-21.9	-35.9	26.7	505.8	617.6	168.8	5.0
28000.0	357.4	-22.9	-36.9	26.2	497.4	616.4	166.8	5.8
28500.0	350.1	-23.4	-38.0	24.4	488.2	615.8	163.7	6.9
29000.0	342.9	-23.8	-39.2	22.6	479.1	615.2	161.5	8.2
29500.0	335.8	-24.7	-40.3	21.8	470.7	614.9	160.1	9.6
30000.0	328.8	-25.7	-41.3	21.4	462.7	612.9	159.1	11.1
30500.0	321.9	-26.7	-42.3	21.1	454.9	611.7	159.4	10.7
31000.0	315.2	-27.7	-43.3	20.8	447.3	610.4	159.9	10.0
31500.0	308.7	-28.7	-44.3	20.4	439.7	609.2	160.6	8.3
32000.0	302.2	-29.7	-45.3	20.1	432.3	608.0	162.0	6.1
32500.0	295.8	-30.9	-46.2	20.5	425.4	606.4	163.9	4.8
33000.0	289.6	-32.3	-47.0	21.3	418.7	604.7	165.5	4.3
33500.0	283.4	-33.6	-47.9	22.0	412.1	603.0	167.6	4.7
34000.0	277.3	-34.5	-48.6	22.0	404.7	601.9	168.9	6.7
34500.0	271.4	-35.3	-49.3	22.0	397.4	600.8	169.6	8.5
35000.0	265.5	-36.4	-50.1	22.5	390.6	599.5	170.3	9.9
35500.0	259.7	-37.5	-51.1	22.4*	383.9	598.1	170.8	11.2
36000.0	254.1	-38.9	-51.2	29.4**	377.8	596.3	170.3	11.6
36500.0	248.5	-40.2	-49.3	22.0	371.6	594.6	169.9	12.1
37000.0	243.0	-41.4	-41.4	22.0	365.3	593.0	167.8	12.2
37500.0	237.6	-42.7	-42.7	22.5	359.0	591.5	165.3	12.3
38000.0	232.3	-43.9	-43.9	22.0	352.9	589.9	161.3	11.4
38500.0	227.1	-45.1	-45.1	22.0	346.9	588.3	155.5	10.1
39000.0	222.0	-46.3	-46.3	22.0	340.9	586.8	150.8	9.0
39500.0	216.9	-47.5	-47.5	22.5	334.9	585.1	148.1	8.2
40000.0	211.9	-48.8	-48.8	22.5	329.1	583.5	145.4	7.4
40500.0	207.1	-50.0	-50.0	22.5	323.4	581.9	142.8	6.7
41000.0	202.4	-51.3	-51.3	22.5	317.8	580.3	139.6	5.9
41500.0	197.7	-52.4	-52.4	22.5	312.0	578.8	134.6	4.9
42000.0	193.1	-53.4	-53.4	22.5	306.2	577.5	127.1	4.0
42500.0	188.6	-54.4	-54.4	22.5	300.4	576.1	148.2	2.1
43000.0	184.2	-55.3	-55.3	22.5	294.5	575.1	227.8	1.9
43500.0	179.9	-55.8	-55.8	22.5	288.3	574.3	268.4	4.2

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1330 HRS MDT
 ASCENSION NO. 66

UPPER AIR DATA
 2030220066
 NW 30
 TABLE 16 CON'T

GEOMETRIC PRESSURE TEMPERATURE REL.HUM. SPEED OF
 ALTITUDE AIR DEPOINT GM/CUBIC SOUND
 MSL FEET MILLIBARS DEGREES CENTIGRADE PERCENT METER KNOTS
 44000.0 175.6 -56.4 282.2 573.6 263.8 7.7 1.000063
 44500.0 171.5 -57.1 276.5 572.6 289.3 11.2 1.000062
 45000.0 167.3 -58.5 271.6 570.8 290.5 12.7 1.000060
 45500.0 163.3 -59.9 266.8 568.9 291.5 14.2 1.000059
 46000.0 159.4 -61.3 262.0 567.1 289.8 14.6 1.000058
 46500.0 155.5 -62.6 257.4 565.2 287.1 14.7 1.000057
 47000.0 151.6 -64.0 252.9 563.4 285.6 14.7 1.000056
 47500.0 148.1 -65.3 248.2 561.6 285.5 14.7 1.000055
 48000.0 144.4 -66.5 243.4 560.0 285.4 14.6 1.000054
 48500.0 140.8 -67.7 238.8 558.4 283.1 14.4 1.000053
 49000.0 137.3 -68.9 234.2 556.8 284.8 14.1 1.000052
 49500.0 133.9 -70.0 229.7 555.2 282.7 13.9 1.000051
 50000.0 130.5 -70.6 224.5 554.4 279.9 13.6 1.000050
 50500.0 127.2 -71.2 219.4 553.7 276.0 13.1 1.000049
 51000.0 124.0 -71.7 214.4 552.9 270.4 12.3 1.000048
 51500.0 120.8 -72.3 209.6 552.1 264.5 11.7 1.000047
 52000.0 117.6 -72.9 204.8 551.4 266.5 10.5 1.000046
 52500.0 114.8 -73.5 200.0 550.8 269.0 9.3 1.000045
 53000.0 111.6 -73.1 194.8 551.0 273.7 7.8 1.000043
 53500.0 109.0 -72.9 189.6 551.2 282.5 6.2 1.000042
 54000.0 106.2 -72.6 184.7 551.5 296.9 4.9 1.000041
 54500.0 103.5 -72.6 179.8 551.7 286.6 4.1 1.000040
 55000.0 100.9 -71.1 173.9 553.7 271.9 3.5 1.000039
 55500.0 98.4 -68.9 167.7 556.8 269.8 2.8 1.000037
 56000.0 95.9 -68.0 162.8 558.0 286.8 2.0 1.000036
 56500.0 93.5 -67.1 158.1 559.3 325.7 1.2 1.000035
 57000.0 91.2 -66.1 153.5 560.5 96.2 4.0 1.000034
 57500.0 88.9 -65.2 149.0 561.8 102.2 8.9 1.000033
 58000.0 86.8 -65.0 145.2 562.1 109.7 12.5 1.000032
 58500.0 84.6 -65.0 141.6 562.1 121.5 14.9 1.000032
 59000.0 82.6 -65.0 138.2 562.1 129.8 17.7 1.000031
 59500.0 80.5 -64.6 134.5 562.6 134.8 18.2 1.000030
 60000.0 78.6 -64.0 130.8 563.5 139.5 17.2 1.000029
 60500.0 76.6 -63.4 127.3 564.3 144.6 16.4 1.000028
 61000.0 74.8 -63.3 124.2 564.3 148.2 16.1 1.000027
 61500.0 73.0 -63.8 121.4 563.7 151.5 15.9 1.000026
 62000.0 71.2 -64.2 118.7 563.1 154.7 15.7 1.000025
 62500.0 69.4 -64.3 115.8 563.0 156.7 13.4 1.000025
 63000.0 67.7 -63.8 112.7 563.7 159.5 11.2 1.000025
 63500.0 66.1 -63.2 109.7 564.4 156.9 9.0 1.000024

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1330 HRS MDT
 ASCENSION NO. 66

UPPER AIR DATA
 2n3022n066
 NW 30

TABLE 16 CON'T

GEOMETRIC ALTITUDE MSL FEEt	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
64000.0	64.5	-62.5	106.7	565.4	133.6	7.4	1.000024	
64500.0	62.9	-61.0	103.4	567.4	105.0	7.4	1.000023	
65000.0	61.4	-59.5	100.2	569.5	93.2	9.4	1.000022	
65500.0	60.0	-58.0	97.1	571.5	94.0	12.1	1.000022	
66000.0	58.5	-57.5	94.5	572.1	94.5	14.7	1.000021	
66500.0	57.2	-57.6	92.4	572.0	94.2	16.8	1.000021	
67000.0	55.8	-57.7	90.2	571.9	92.5	17.6	1.000020	
67500.0	54.5	-57.8	88.1	571.7	91.0	18.5	1.000020	
68000.0	53.2	-57.2	85.8	572.5	89.1	19.4	1.000019	
68500.0	51.9	-56.5	83.5	573.5	83.4	21.0	1.000019	
69000.0	50.7	-55.7	81.3	574.4	78.6	22.7	1.000018	
69500.0	49.5	-55.3	79.2	575.0	74.6	24.6	1.000018	
70000.0	48.4	-55.3	77.3	575.0	74.4	25.7	1.000017	
70500.0	47.2	-55.3	75.5	575.1	74.7	26.7	1.000017	
71000.0	46.1	-55.3	73.7	575.1			1.000016	
71500.0	45.0	-55.2	72.0	575.1			1.000016	
72000.0	44.0	-55.2	70.3	575.1			1.000016	
72500.0	43.0	-55.2	68.7	575.1			1.000015	

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1300 HRS MDT
 ASCENSION NO. 66

MANDATORY LEVELS

2n3022n066
 NW 30

GEOGRAPHIC COORDINATES
 32.88497 LAT DEG
 106.499714 LON DEG

TABLE 17

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPONT CENTIGRADE	REL.HUM. PERCENT	WIND DATA	
					DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4960.	33.3	9.4	23*	100.0	2.2
800.0	6739.	28.1	7.3	27*	155.5	5.1
750.0	8599.	22.7	4.3	30*	344.5	4.2
700.0	10550.	17.4	-3.3	30*	104	1.5
650.0	12605.	11.8	-6.4	27*	150.6	6.3
600.0	14779.	5.9	-6.2	41*	120.8	16.0
550.0	17090.	-0.3	-12.0	41*	123.8	20.8
500.0	19568.	-4.6	-23.5	21*	202.5	7.7
450.0	22262.	-10.0	-26.7	24*	242.1	7.8
400.0	25208.	-16.0	-32.7	22*	210.8	6.2
350.0	28456.	-23.4	-38.1	24*	163.7	6.9
300.0	32111.	-30.0	-45.6	20*	162.7	5.4
250.0	36284.	-39.9			170.1	11.9
200.0	41157.	-51.9			137.4	5.4
175.0	43963.	-56.5			284.7	8.1
150.0	47115.	-64.7			285.5	14.7
125.0	50698.	-71.6			272.5	12.6
100.0	54999.	-69.5			266.9	3.4
80.0	59436.	-64.4			135.8	18.0
70.0	62123.	-64.5			155.8	14.3
60.0	65250.	-58.0			93.9	11.8
50.0	69035.	-55.3			76.4	23.7

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 81 1430 HRS MDT
 ASCENSION NO. 84

SIGNIFICANT LEVEL DATA
 2030030084
 JALLEN

TABLE 18

GEOGRAPHIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEPOINT DEGREES	REL.HUM. PERCENT
874.6	4051.0	37.2	8.9	18.0
850.0	4903.8	34.3	14.2	30.0
700.0	10534.7	18.8	3.4	36.0
570.2	16161.4	2.9	-5.2	55.0
529.2	18133.8	-1.3	-17.4	28.0
500.0	19612.8	-4.4	-21.9	24.0
472.6	21067.3	-6.5	-21.9	28.0
400.0	25283.7	-15.4	-30.9	25.0
355.2	28191.7	-23.1	-36.5	28.0
341.8	29118.4	-23.4	-38.6	23.0
313.4	31191.4	-27.3	-42.4	22.0
300.0	32221.4	-30.2	-44.5	23.0
284.8	33433.8	-32.6	-45.9	25.0
278.8	33927.5	-33.0	-46.2	25.0
261.2	35425.6	-37.0	-49.7	25.0
250.0	36418.4	-39.7		
200.0	41319.4	-51.4		
179.2	43645.7	-56.0		
150.0	47295.4	-65.3		
126.0	50745.3	-71.3		
105.4	54229.8	-71.0		
100.0	55263.9	-68.4		
80.8	59540.4	-62.9		
72.4	61769.5	-63.4		
70.0	62457.5	-60.9		
62.0	64972.0	-57.0		
50.0	69480.4	-56.1		
45.4	71510.8	-55.5		
40.0	74208.6	-50.7		
30.0	80437.5	-48.5		
28.0	81943.2	-47.3		

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1430 HRS MDI
ASCENSION NO. 84

UPPER AIR DATA
2n30030n84
JALLEN

TABLE 19

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DESITY GM/CUBIC METER	SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INFLUX OF REFRACTION	
4051.0	874.6	37.2	8.9	18.0	976.9	688.0	0	1.000263	
4500.0	861.6	35.7	12.2	24.3	965.8	686.8	.8	1.000272	
5000.0	847.2	34.0	14.1	30.1	953.9	685.3	1.8	1.000277	
5500.0	832.7	32.7	13.1	30.6	942.1	683.6	2.7	1.000271	
6000.0	818.5	31.3	12.2	31.2	930.4	682.0	3.7	1.000266	
6500.0	804.5	29.9	11.3	31.7	918.9	680.3	3.7	1.000260	
7000.0	790.7	28.5	10.3	32.2	907.6	678.7	3.3	1.000255	
7500.0	777.2	27.2	9.4	32.8	896.4	677.1	227.7	4.0	1.000249
8000.0	763.9	25.8	8.4	33.8	885.4	675.4	223.1	4.6	1.000244
8500.0	750.9	24.4	7.5	33.8	874.5	673.0	206.2	4.7	1.000239
9000.0	738.0	23.0	6.5	34.4	863.8	672.1	186.3	5.1	1.000234
9500.0	725.4	21.6	5.5	34.9	853.2	670.5	170.9	5.9	1.000230
10000.0	713.0	20.3	4.5	35.4	842.8	668.8	164.5	6.8	1.000225
10500.0	700.8	18.9	3.5	36.0	832.4	667.2	157.9	7.0	1.000220
11000.0	688.2	17.5	2.9	37.6	821.5	665.5	150.4	7.0	1.000217
11500.0	675.8	16.1	2.2	39.3	810.7	663.9	138.9	7.8	1.000213
12000.0	663.6	14.7	1.5	40.9	800.1	662.2	131.2	8.6	1.000210
12500.0	651.6	13.2	.8	42.6	789.6	660.5	126.4	9.0	1.000206
13000.0	639.8	11.8	.1	44.3	779.3	658.9	124.5	9.5	1.000202
13500.0	628.3	10.4	-7	46.0	769.1	657.2	123.2	10.2	1.000199
14000.0	616.9	9.0	-1.5	47.7	759.1	655.5	120.2	11.9	1.000195
14500.0	605.8	7.6	-2.3	49.4	749.3	653.8	117.4	13.6	1.000192
15000.0	594.9	6.2	-3.2	51.1	739.6	652.1	114.5	15.2	1.000188
15500.0	584.1	4.8	-4.0	52.8	730.0	650.4	115.5	16.5	1.000185
16000.0	573.6	3.4	-4.9	54.5	720.6	648.7	117.7	17.7	1.000182
16500.0	562.9	2.2	-7.0	50.4	710.6	647.2	122.7	17.3	1.000176
17000.0	552.4	1.1	-9.9	43.5	700.3	645.6	129.2	16.3	1.000171
17500.0	542.0	0	-13.0	36.7	690.1	644.4	141.0	13.4	1.000165
18000.0	531.9	-1.0	-16.4	29.8	680.1	643.1	155.4	10.8	1.000160
18500.0	521.8	-2.1	-18.5	27.0	669.9	641.8	173.3	8.2	1.000157
19000.0	511.9	-3.1	-20.0	25.7	659.8	640.5	198.2	6.0	1.000153
19500.0	502.2	-4.2	-21.5	24.3	649.8	639.2	239.7	4.3	1.000150
20000.0	492.6	-5.0	-21.9	25.1	639.3	638.3	267.3	4.8	1.000148
20500.0	483.1	-5.7	-21.9	26.4	628.7	637.4	274.6	5.2	1.000146
21000.0	473.8	-6.4	-21.9	27.8	618.3	636.5	257.7	4.7	1.000143
21500.0	464.6	-7.4	-22.9	27.7	608.6	635.3	231.3	4.8	1.000141
22000.0	455.5	-8.5	-23.9	27.3	599.1	634.0	220.4	5.5	1.000138
22500.0	446.6	-9.5	-25.0	27.0	589.7	632.8	213.6	6.3	1.000136
23000.0	437.8	-10.6	-26.0	26.6	580.5	631.5	212.3	6.6	1.000133
23500.0	429.2	-11.6	-27.1	26.3	571.5	630.2	209.9	6.9	1.000131

GEOGRAPHIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1430 HRS MDT
ASCENSION NO. 84

PP-R AIR DATA
2n30030084
JAI LEN

TABLE 19 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	INDEX OF REFRACTION	SPEED OF SOUND KNOTS METER	DIRECTION DEGREES (TN)	INDEX OF REFRACTION
24000.0	420.8	-12.7	-28.2	25.9	562.6	628.9	206.2
24500.0	412.6	-13.7	-29.2	25.6	553.8	627.6	200.3
25000.0	404.5	-14.8	-30.3	25.2	545.2	626.3	193.0
25500.0	396.5	-16.0	-31.3	25.2	536.8	624.9	186.3
26000.0	388.5	-17.3	-32.2	25.7	528.7	623.3	178.1
26500.0	380.6	-18.6	-33.2	26.3	520.7	621.6	174.7
27000.0	372.9	-19.9	-34.1	26.8	512.9	620.0	174.4
27500.0	365.4	-21.3	-35.1	27.3	505.2	618.4	179.2
28000.0	358.0	-22.6	-36.1	27.8	497.6	616.8	165.4
28500.0	350.7	-23.2	-37.2	26.3	488.6	616.0	162.9
29000.0	343.5	-23.4	-38.3	25.6	478.9	615.8	160.7
29500.0	336.4	-24.1	-39.3	22.8	470.5	614.9	178.0
30000.0	329.4	-25.1	-40.2	22.6	462.5	613.7	176.4
30500.0	322.6	-26.0	-41.2	22.3	454.6	612.5	177.9
31000.0	315.9	-26.9	-42.1	22.1	446.9	611.4	179.7
31500.0	309.3	-28.2	-43.0	22.3	439.8	609.8	184.3
32000.0	302.8	-29.6	-44.1	22.8	433.1	608.1	190.8
32500.0	296.4	-30.8	-44.8	23.5	426.0	606.6	192.7
33000.0	290.1	-31.7	-45.4	24.3	418.6	605.3	194.8
33500.0	284.0	-32.7	-45.9	25.0	411.3	604.2	196.2
34000.0	277.9	-33.2	-46.4	25.0	403.4	603.5	197.3
34500.0	271.9	-34.5	-47.5	25.0	397.0	601.8	199.5
35000.0	266.1	-35.9	-48.7	25.0	390.6	600.1	202.1
35500.0	260.3	-37.2	-50.0	23.1*	384.4	598.4	203.0
36000.0	254.7	-38.6	-58.1	10.5**	378.2	596.7	201.9
36500.0	249.1	-39.9			372.0	595.0	199.5
37000.0	243.5	-41.1			365.5	593.5	194.2
37500.0	238.0	-42.3			359.1	591.9	189.9
38000.0	232.6	-43.5			352.8	590.4	186.4
38500.0	227.4	-44.7			346.7	588.9	184.2
39000.0	222.3	-45.9			340.7	587.3	186.5
39500.0	217.3	-47.1			334.8	585.8	189.2
40000.0	212.4	-48.3			329.0	584.2	191.2
40500.0	207.6	-49.4			323.3	582.7	194.3
41000.0	202.9	-50.6			317.7	581.1	202.0
41500.0	198.3	-51.8			312.0	579.7	210.9
42000.0	193.7	-52.7			306.1	578.4	234.7
42500.0	189.2	-53.7			300.3	577.1	251.2
43000.0	184.7	-54.7			294.6	575.8	263.0
43500.0	180.4	-55.7			289.1	574.5	272.9

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1430 HRS MDT
ASCENSION NO. 84

UPPFER AIR DATA
2n30030084
JALLEN
TABLE 19 CON'T

GEOGRAPHIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	GM/CUBIC METER	SOUND SPEED KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
44000.0	176.1	-56.9			283.7	572.9	279.0	15.9	1.000063
44500.0	171.9	-58.2			278.6	571.2	282.2	16.1	1.000062
45000.0	167.8	-59.5			273.5	569.5	285.3	16.4	1.000061
45500.0	163.7	-60.7			268.5	567.8	285.8	15.9	1.000060
46000.0	159.6	-62.0			263.6	566.1	284.8	15.1	1.000059
46500.0	155.9	-63.3			258.8	564.4	281.6	14.3	1.000058
47000.0	152.2	-64.5			254.1	562.7	274.0	14.0	1.000057
47500.0	148.5	-65.7			249.2	561.2	267.0	14.1	1.000056
48000.0	144.8	-66.5			244.0	560.0	265.6	15.4	1.000054
48500.0	141.1	-67.4			239.0	558.8	264.5	16.6	1.000053
49000.0	137.6	-68.3			234.0	557.6	266.0	16.4	1.000052
49500.0	134.2	-69.1			229.1	556.5	267.4	16.3	1.000051
50000.0	130.8	-70.0			224.4	555.3	267.0	14.8	1.000050
50500.0	127.6	-70.9			219.7	554.1	264.5	12.4	1.000049
51000.0	124.4	-71.3			214.6	553.5	261.0	10.0	1.000048
51500.0	121.2	-71.2			209.1	553.6	256.9	7.8	1.000047
52000.0	118.2	-71.2			203.8	553.6	249.8	5.6	1.000045
52500.0	115.2	-71.1			198.6	553.7	241.0	3.9	1.000044
53000.0	112.3	-71.1			193.5	553.8	234.1	2.6	1.000043
53500.0	109.4	-71.1			188.6	553.8	214.1	1.4	1.000042
54000.0	106.6	-71.0			183.8	553.9	219.1	1.1	1.000041
54500.0	104.0	-70.3			178.6	554.8	244.6	1.4	1.000040
55000.0	101.4	-69.1			173.0	556.5	258.6	1.9	1.000039
55500.0	98.8	-68.1			167.9	557.9	254.1	2.7	1.000037
56000.0	96.4	-67.5			163.3	558.7	251.5	3.4	1.000036
56500.0	94.0	-66.8			158.7	559.6	228.0	2.8	1.000035
57000.0	91.7	-66.2			154.4	560.5	159.4	3.4	1.000034
57500.0	89.5	-65.5			150.1	561.4	135.0	6.3	1.000033
58000.0	87.2	-64.9			145.9	562.2	149.2	10.9	1.000032
58500.0	85.1	-64.2			141.9	563.1	156.4	16.1	1.000032
59000.0	83.0	-63.6			138.0	564.0	159.7	19.6	1.000031
59500.0	81.0	-63.0			134.2	564.8	161.7	18.2	1.000030
60000.0	79.0	-63.0			130.9	564.8	164.0	16.7	1.000029
60500.0	77.1	-63.1			127.8	564.6	165.9	13.1	1.000028
61000.0	75.2	-63.2			124.8	564.4	169.0	8.2	1.000028
61500.0	73.4	-63.3			121.8	564.3	181.0	3.4	1.000027
62000.0	71.6	-62.6			118.4	565.3	199.4	1.8	1.000026
62500.0	69.9	-60.8			114.6	567.7	251.7	1.1	1.000026
63000.0	68.2	-60.1			111.5	568.7	325.0	1.3	1.000025
63500.0	66.6	-59.3			108.4	569.7	50.2	3.9	1.000024

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 51 1430 HRS MDT
 ASCENSION, HO. 84

IPPF AIR DATA
 2030030084
 JALLEN

TABLE 19 CON T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	SPEED OF SOUND METERS KNOTS	WIND DATA DIRECTION DEGREES TN	SPEED KNOTS	INDEX OF REFRACTION
64000.0	65.0	-58.5		105.5	570.8	59.6	7.8 1.000023
64500.0	63.4	-57.7		102.6	571.8	66.3	11.0 1.000023
65000.0	61.9	-57.0		99.8	572.8	74.5	13.4 1.000022
65500.0	60.5	-56.9		97.4	572.9	79.9	16.0 1.000022
66000.0	59.0	-56.8		95.1	573.0	82.0	18.5 1.000021
66500.0	57.6	-56.7		92.8	573.2	83.3	20.9 1.000021
67000.0	56.3	-56.6		90.5	573.3	83.3	22.8 1.000020
67500.0	55.0	-56.5		88.4	573.4	81.5	23.8 1.000020
68000.0	53.7	-56.4		86.2	573.6	79.9	24.9 1.000019
68500.0	52.4	-56.3		84.2	573.7	78.5	26.1 1.000019
69000.0	51.2	-56.2		82.1	573.8	77.3	27.3 1.000018
69500.0	50.0	-56.1		80.2	574.0	76.1	27.4 1.000018
70000.0	48.8	-55.9		78.2	574.2	74.6	26.2 1.000017
70500.0	47.6	-55.8		76.3	574.3	73.0	25.0 1.000017
71000.0	46.5	-55.7		74.5	574.5	75.4	24.0 1.000017
71500.0	45.4	-55.5		72.7	574.7	79.8	23.1 1.000016
72000.0	44.4	-54.6		70.7	575.9	84.6	22.3 1.000016
72500.0	43.3	-53.7		68.8	577.1	85.8	22.9 1.000015
73000.0	42.3	-52.9		66.9	578.2	86.6	23.6 1.000015
73500.0	41.4	-52.0		65.1	579.4	87.4	24.4 1.000014
74000.0	40.4	-51.1		63.4	580.6	92.8	25.0 1.000014
74500.0	39.5	-50.6		61.8	581.2	97.9	25.9 1.000014
75000.0	38.6	-50.4		60.3	581.4	102.4	27.0 1.000013
75500.0	37.7	-50.2		58.9	581.6	104.5	28.0 1.000013
76000.0	36.8	-49.9		57.5	581.9	106.5	29.1 1.000013
76500.0	36.0	-49.9		56.1	582.1	107.7	29.9 1.000013
77000.0	35.2	-49.7		54.8	582.3	105.3	29.3 1.000012
77500.0	34.4	-49.5		53.5	582.6	102.7	28.7 1.000012
78000.0	33.6	-49.4		52.3	582.8	100.5	28.3 1.000012
78500.0	32.8	-49.2		51.0	583.0	102.9	28.5 1.000011
79000.0	32.1	-49.0		49.8	583.3	105.3	28.8 1.000011
79500.0	31.3	-48.8		48.7	583.5		1.000011
80000.0	30.6	-48.7		47.5	583.7		1.000011
80500.0	29.9	-48.5		46.4	584.0		1.000010
81000.0	29.2	-48.1		45.2	584.5		1.000010
81500.0	28.6	-47.7		44.1	585.0		1.000010

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 81 1430 HRS MDT
 ASCENSION NO. 84

MANDATORY LEVELS
 2030030084
 JALLEN

GEOGRAPHIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 20

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEWPONT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTIONS (TN) DEGREES (TN)	SPEED KNOTS
850.0	4901.	34.3	14.2	30.	184.6	1.6
800.0	6690.	29.5	11.0	32.	205.6	3.4
750.0	8561.	24.3	7.4	34.	204.1	4.8
700.0	10525.	18.8	3.4	36.	157.5	7.0
650.0	12592.	13.1	*7	43.	125.5	9.0
600.0	14777.	6.8	-2.8	50.	115.7	14.5
550.0	17097.	*9	-10.6	42.	131.4	15.6
500.0	19586.	-4.4	-21.9	24.	250.6	4.4
450.0	22287.	-9.1	-24.6	27.	215.1	6.1
400.0	25242.	-15.4	-30.9	25.	189.4	8.3
350.0	28496.	-23.2	-37.3	26.	182.7	6.2
300.0	32158.	-30.2	-44.5	23.	191.6	6.3
250.0	36339.	-39.7			200.6	11.2
200.0	41220.	-51.4			207.2	4.5
175.0	44029.	-57.2			279.8	15.9
150.0	47168.	-65.3			269.7	14.0
125.0	50755.	-71.3			261.9	10.5
100.0	55094.	-68.4			256.0	2.3
80.0	59546.	-62.9			162.6	17.5
70.0	62244.	-60.9			241.5	1.2
60.0	65423.	-56.9			80.8	16.7
50.0	69220.	-56.1			76.2	27.5
40.0	73913.	-50.7			94.7	25.3
30.0	80094.	-48.5				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

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